

Meat analogues: a new future?

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BACKGROUND

The growing trend of plant-based food diets implies new products to cover consumer requirements, like **meat analogues**.

AIMS

1. To obtain **contrasted information** about **characteristics, formulation** and **processing** of meat analogues.
2. To know the **reasons** why they might suppose a **good alternative** to meat and meat products.
3. To investigate which products are in the market and why they are **gaining importance among consumers**.
4. To know which **benefits** meat analogues have over meat and meat products.

INGREDIENTS AND ADDITIVES

Proteins → Structure

- Soybean
- Wheat

Fats and oils → Juiciness and tenderness

- Sunflower oil
- Coconut oil

Cohesion agents → Binding

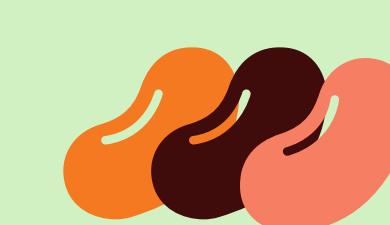
- Flour
- Starch

Flavours, colours and spices → Flavour and colour

- Pomegranate extract
- Leg-hemoglobin
- Black pepper

Vitamins and minerals → Enrichment

- Vitamin B12



TECHNOLOGY

High moisture extrusion

Fibrous texture formation

Third generation meat analogue



Fig 1. Plant-based burger. Source:
<https://www.washingtonpost.com/news/voraciously/wp/2019/06/25/beyond-meats-latest-plant-based-burger-is-meatier-juicier-and-a-big-step-closer-to-beef/>

REASONS TO CHOOSE THEM = BENEFITS

Nutritional

- Good source of proteins
- More fibre
- Less saturated fatty acids
- No cholesterol

Environmental

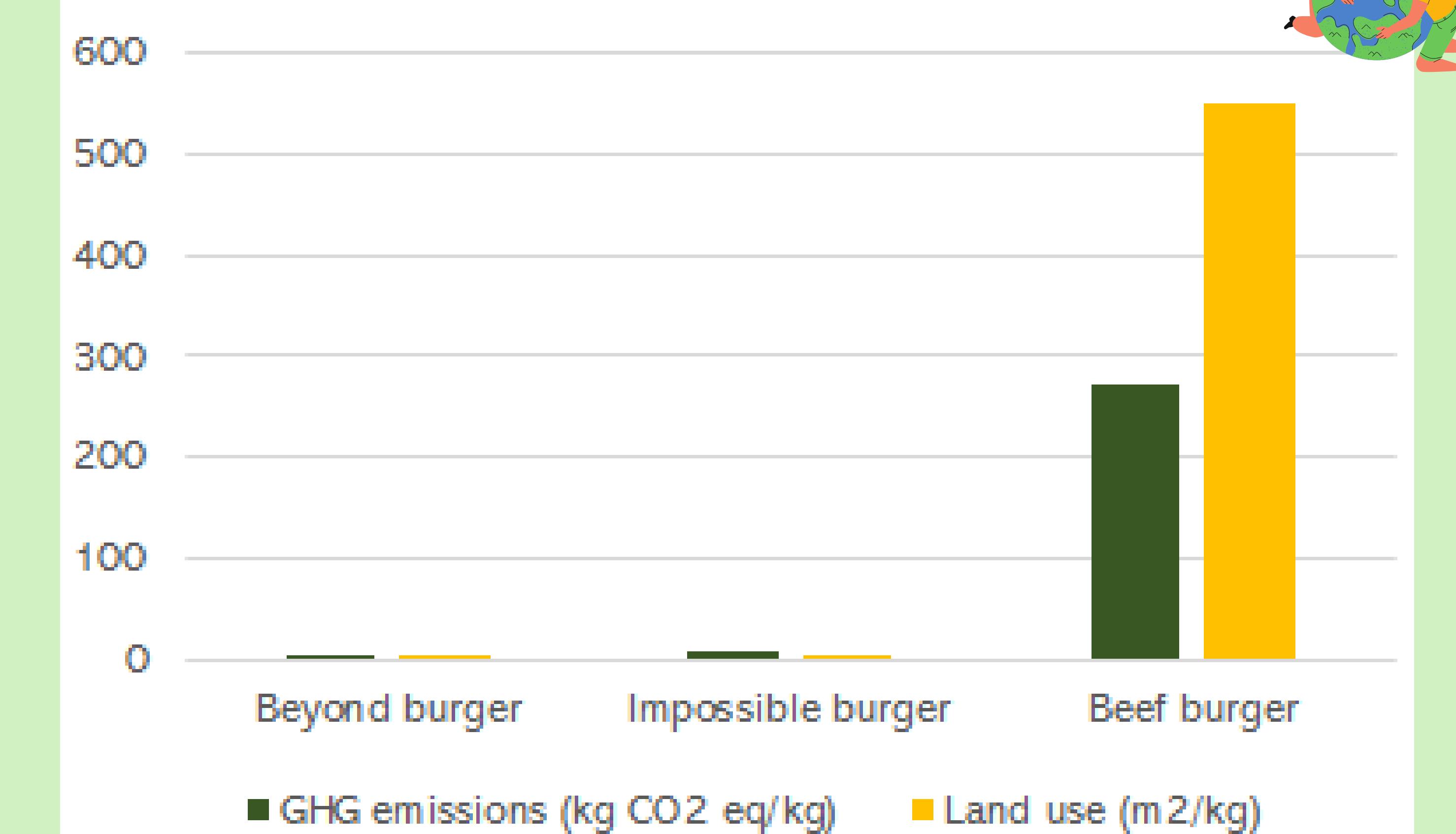


Fig 2. Plant-based burger and beef burger impact on greenhouse gas emissions (GHG) and land use. Source: edited figure from Heller and Keoleian (2018) and Khan et al. (2019).

Ethical



- Animals are not slaughtered
- Suitable for some religions and cultures

CONCLUSIONS

1. Meat analogues have **physicochemical** and **sensory characteristics** that allow to **imitate** meat texture and taste.
2. They are gaining importance due to the growing awareness of the role of food in **health, climate change** and **animal welfare**.
3. They have some **nutritional benefits**, are **more sustainable** and imply **no slaughtered animals**.
4. Meat analogues will make possible a **new future with less consumption of meat and meat products**.

References

- Heller MC, Keoleian GA. 2018. Beyond Meat's Beyond Burger life cycle assessment: A detailed comparison between a plant-based and an animal-based protein source. University of Michigan, Center for Sustainable Systems, Ann Arbor, Michigan, USA.
- Khan S, Loyola C, Dettling J, Hester J, Moses R. 2019. Comparative environmental LCA of the Impossible Burger with conventional ground beef burger. Quantis International, Lausana, Suissa.