

Meat Analogues

Position Paper

Meat analogues have captured the public's attention. The global market for plant-based meat analogues reached EUR 4.08 billion in 2018 and it is projected to reach EUR 5.66 billion by 2023.ⁱ This trend is primarily driven by an increasing demand for healthy diets, as well as an increased preference for vegetarian and vegan foods.ⁱⁱ

Compassion in World Farming welcomes the development of meat analogues as they have the potential to facilitate a dietary shift away from a food system that is abusive of farm animals, contributes to climate change, destroys the environment, threatens the livelihoods of smallholder farmers, and harms human health. The EU should enable the acceptance of meat analogues, given of course that stringent rules for human health and consumer information apply.

I. Issues associated with meat consumption

Rising incomes in emerging and middle-income economies have prompted a rapid increase in per capita consumption of meat; global meat consumption is expected to be 15% higher in 2027 than during the period 2015-2017.ⁱⁱⁱ This would have significant negative implications for animal welfare, the environment, the livelihoods of smallholder farmers, and human health.

- a) **Abuse of animals:** In 2013, about 80 billion land animals were used for food globally and the number is expected to rise to 120 billion by 2050.^{iv} In the EU, an estimated 9 billion land farm animals are slaughtered each year.^v Over two thirds of farm animals in Europe are raised in industrial farms.^{vi} Even though EU law recognises animals as sentient beings,^{vii} the intensification of livestock production has led to poor animal welfare across Europe. Most intensive farming systems force animals to live in severe confinement, where the animals are prevented from performing almost all natural behaviours and as a result experience extreme frustration. Their stressful living conditions and often unnatural diets make them prone to infections. Many intensively-farmed animals are also subject to mutilations performed without anaesthesia and have been selectively bred for such fast growth and high yields that many suffer from painful health problems. The intensification of farming has also led to the cruel use of cages: In the EU alone, over 360 million animals spend all or part of their lives imprisoned in cages every year.^{viii}
- b) **Climate change and environmental destruction:** The livestock industry is responsible for 14.5% of all greenhouse gas emissions produced by human activity, which is more than the global transport sector.^{ix} It uses more than two thirds of our planet's agricultural land.^x In addition, approximately 30% of the total human-induced biodiversity loss is related to farm animal production.^{xi} Animal agriculture also leads to water and air pollution, excessive water and land use, deforestation, soil degradation, and overfishing.^{xii}
- c) **Threat to the livelihoods of smallholder farmers:** The rising demand for meat and the associated industrialisation of animal agriculture leads to a consolidation of agribusiness companies and threatens the livelihoods of smallholder – or family – farmers, who have difficulty in maintaining profitability.^{xiii} The industrialisation of animal farming also leads to labour issues, such as underprivileged workers forced to work under inappropriate labour conditions because factory farming has destroyed other job opportunities.^{xiv}
- d) **Harm to human health:** Excessive levels of individual meat consumption are associated with the growing global public health burden of overweight, obesity and diet-related, non-communicable diseases, including cardiovascular disease, type-2 diabetes and certain cancers.^{xv} Processed meat (such as bacon, ham and salami) is classified as a carcinogen, in the same category as arsenic, asbestos and tobacco; and red meat as a probable carcinogen – in the same category as the controversial pesticide glyphosate.^{xvi} High meat intake is the most significant predictor of increased obesity rates.^{xvii} In 2013, over two thirds of all antimicrobials sold in Europe were used in animals, and this is a major contributor to antimicrobial resistance.^{xviii} Intensive animal agriculture is also linked to pandemics, such as avian flu.^{xix}

Transformation to healthy diets from sustainable food systems is necessary to achieve the UN Sustainable Development Goals and the Paris Agreement, and a group of leading scientists have devised for that purpose a 'planetary health diet' which for Europeans would require eating 77% less red meat by 2050.^{xx}

II. The regulatory framework in the EU

In order to avoid the problems associated with the previously-mentioned issues, the EU should encourage the development of a sustainable growth of the meat analogues industry. Several EU laws regulate the meat analogues already on the market to ensure the products are safe and that consumers are not misinformed.

- a) **Plant-based 'meat':** Plant-based 'meat' is a reference to products that resemble meat from animals, yet they are made from plants. These must be compliant with Regulation (EC) No 178/2002 on General Food Law, which provides an overall framework for food products to ensure they do not harm human health or consumer interests. These products also fall under the Regulation on Food Information to the Consumer, or the FIC Regulation (EU) No 1169/2011, which covers the general rules regarding fair consumer information practices. This means, e.g., that plant-based products need to have clear labelling that the products are vegetal. Some new advanced plant-based 'meats' that are not marketed in the EU yet are likely to also need a pre-market authorisation through the procedure listed under the Regulation (EU) No 2015/2283 on Novel Foods, which also means they would be subject to labelling requirements and post-market monitoring.
- b) **Slaughter-free meat:** Slaughter-free meat, also referred to as 'clean meat,' 'cultured meat' or 'cell-based meat,' is actual meat grown from animal cells but developed in a lab. It is not marketed in the EU yet. Before such products are placed within the single market, they would still need to follow the requirements of the General Food Law and the FIC Regulation mentioned above and they are also likely to need pre-market authorisation, clear labelling and post-market monitoring, as outlined in the Regulation (EU) No 2015/2283 on Novel Foods. Meat analogues made with a minimum of 0.9% of GMO ingredients must respect the existing legislation like the GMO Regulation (EC) No 1829/2003 and such products must be clearly labelled.

Questions remain whether certain EU requirements will need to be amended. For example, the EU requires companies to include information in the label on the country where the animal has been slaughtered, yet this cannot possibly be applicable to slaughter-free meat. In addition, there is a lack of an agreed definition of meat analogues, which leads to the labelling of plant-based products being subject to scrutiny and/or restriction in certain Member States.

III. Conclusion

The meat analogue market has the potential to change the lives of the 9 billion farm animals in the EU who are slaughtered each year, most of whom are kept in industrial farming systems. By facilitating a shift towards healthier, plant-based diets, they also have the potential to address other key societal concerns related to climate change, social justice and human health. The European institutions and national governments in the EU have a vital role in creating an enabling environment for these products, as long as they do not undermine human health and consumer interests.

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- ⁱ PR Newswire (2018) '[Meat Substitutes Market 2018 - Global Forecast to 2023](#).' Note: the original amount is in USD (USD 4.63 billion in 2018 and USD 6.43 billion by 2023).
 - ⁱⁱ *Ibid.*
 - ⁱⁱⁱ Organisation for Economic Co-operation and Development, Food and Agriculture Organization of the United Nations (2018) '[OECD-FAO Agricultural Outlook 2018-2027](#),' Chapter 6: Meat.
 - ^{iv} Food and Agriculture Organization of the United Nations (2016) [FAOStat](#). Estimates for 2050 are based on Alexandratos N. and Bruinsma J. (2012) [World agriculture towards 2030/2050: the 2012 revision](#). ESA Working paper No. 12-03, Food and Agriculture Organization of the United Nations. p. 131, Table 4.18.
 - ^v Estimate by Compassion in World Farming based on [FAO dataset for Livestock Primary](#), accessed in January 2019.
 - ^{vi} *Ibid.*
 - ^{vii} Article 13, [Treaty on the Functioning of the European Union](#).
 - ^{viii} Compassion in World Farming (2018) '[End the Cage Age](#).' Note: this figure for the EU excludes data for the UK.
 - ^{ix} Gerber, P.J., et al. (2013) [Tackling Climate Change through Livestock: A Global Assessment of Emissions and Mitigation Opportunities](#), Rome: UN Food and Agriculture Organization.
 - ^x de Haan, C., Steinfeld H., and Blackburn H. (1997) '[Livestock and the environment: finding a balance](#).' European Commission Directorate-General for Development, Development Policy Sustainable Development and Natural Resources, p. 8.
 - ^{xi} Westhoek, H. et al. (2011) *The Protein Puzzle. The Consumption and Production of Meat, Dairy and Fish in the European Union* (The Hague, The Netherlands: PBL Netherlands Environmental Assessment Agency).
 - ^{xii} Greenpeace (2018) '[Less Is More: Greenpeace vision of the meat and dairy system towards 2050](#).'
 - ^{xiii} LyMBERY, P. and OAKESHOTT, I. (2014) 'Farmageddon: The True Cost of Cheap Meat'; LyMBERY, P. (2017) 'Dead Zone: Where the Wild Things Were.'
 - ^{xiv} LyMBERY, P. (2017) 'Dead Zone: Where the Wild Things Were.'
 - ^{xv} Greenpeace (2018) '[Less Is More: Greenpeace vision of the meat and dairy system towards 2050](#).'
 - ^{xvi} World Health Organization (2018) '[Agents classified by the IARC Monographs, Volumes 1-123](#),' Group 1: Carcinogenic to humans and Group 2A: Probably carcinogenic to humans
 - ^{xvii} Wenpeng, Y. and Henneberg, M. (2016) '[Meat consumption providing a surplus energy in modern diet contributes to obesity prevalence: an ecological analysis](#).' BMC Nutrition.
 - ^{xviii} European Center for Disease Prevention and Control (ECDC), European Food Safety Authority (EFSA), European Medicines Agency (EMA) (2017) [Joint Interagency Antimicrobial Consumption and Resistance Analysis Report](#) Van Boeckel, P. et al. (2017) '[Reducing antimicrobial use in food animals](#).' Van Boeckel, P. (2017) '[A Global Plan To Cut Antimicrobial Use In Animals](#)'
 - ^{xix} LyMBERY, P. and OAKESHOTT, I. (2014) 'Farmageddon: The True Cost of Cheap Meat.'
 - ^{xx} The Lancet (2019) '[Food in the Anthropocene: the EAT–Lancet Commission on healthy diets from sustainable food systems](#).' The Guardian (2019) '[New plant-focused diet would 'transform' planet's future, say scientists](#)'