

Summary: plant-based meat and health in Europe

Diversifying Europe's protein supply is essential to address global health challenges such as climate change, food insecurity, antimicrobial resistance and pandemic risk. Meanwhile, diet-related ill health represents a growing burden on European economies and health systems. Increasing the proportion of plant-based foods in our diets is therefore a growing priority for governments – and plant-based meat has a key role to play in this transition.

While academics and policymakers are beginning to recognise the advantages of plant-based meat, many still have questions about its nutritional benefits. Here is a snapshot of current evidence, frequently asked questions and key priorities for plant-based meat and public health in Europe.

What is plant-based meat?

Plant-based meat looks, cooks and tastes like conventional meat – but is made from plants or fungi.

But is it healthy?

There is broad variation across products and countries, but on average plant-based meat in Europe has a good nutritional profile.

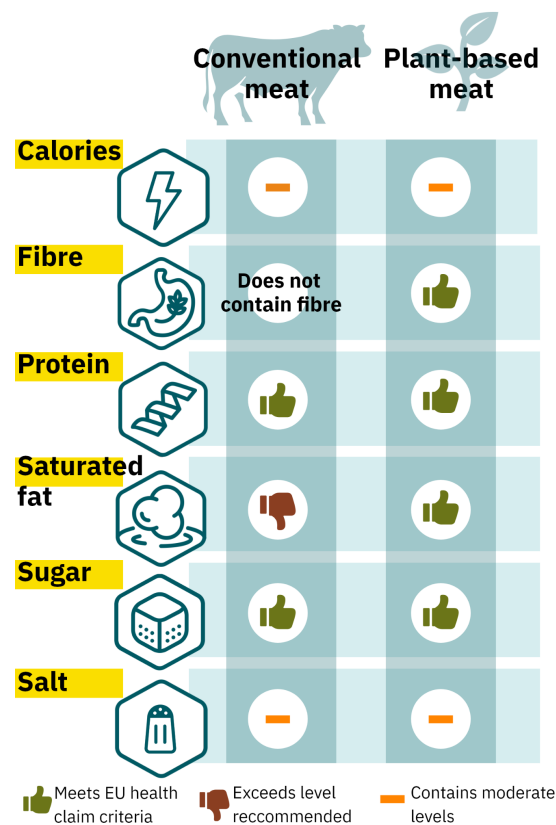
Relative to the large body of evidence on the numerous benefits of plant-based whole foods such as whole grains, beans and vegetables, research into the impact of plant-based meat on health outcomes is still limited, but initial studies suggest swapping conventional meat for plant-based meat could:

- **Reduce** risk of **heart disease**, the leading cause of death in Europe.
- **Reduce** bowel cancer risk, the second leading cause of cancer death in Europe.
- **Improve** gut health.
- **Help maintain** a healthy weight.

Therefore, plant-based meat can offer consumers convenient options that are easy to incorporate into their diets as they transition towards more plant-based ways of eating, alongside existing initiatives to improve the availability and accessibility of plant-based whole foods.

How do plant-based and conventional meat stack up against EU guidance?

Studies of products in [Germany](#), the [Netherlands](#), [Spain](#), [Sweden](#), and the [UK](#) suggest plant-based meat generally has a good nutritional profile.



Across studies, plant-based meat was fibre source and usually low in saturated fat, and conventional meat had low fibre and often high saturated fat. Both were high protein and low sugar. Plant-based meat broadly had similar but slightly fewer calories and similar salt – sometimes slightly more sometimes slightly less. Significant variation was present across both plant-based and conventional product categories – see the [full report](#) for breakdowns.

Micronutrients

In the context of protein diversification and the need for increasingly plant-based eating patterns, plant-based meat offers one of the simplest ways to provide key micronutrients that can be lacking in plant-based whole foods.

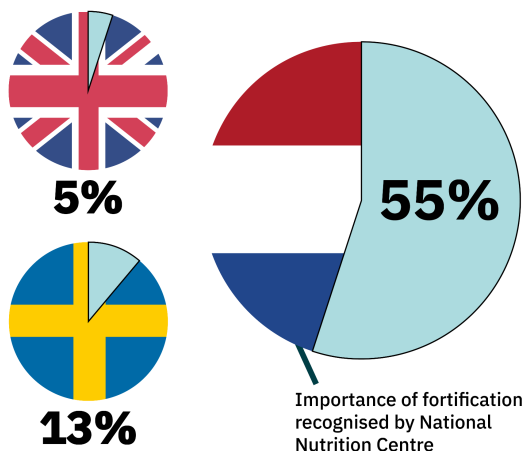
The way plant-based meat is made can **add important nutrients** and **make others easier** for the body to process (more bioavailable).

Fortification with key nutrients presents many opportunities, but plant-based meat producers currently face several barriers to fortification:

- Fortified food **cannot be certified organic** (but meat from animals fed the same fortification can be).
- Fortification can be costly.
- Growing focus on short ingredient lists often does not account for beneficial added ingredients like fortification.

Producers may be reluctant to pay more to fortify if it results in a less desirable consumer product, so rates of fortification in plant-based meat vary significantly by country. Studies suggested rates in the **UK** (2021) and **Sweden** (2022) were significantly lower than the **Netherlands** (2023) where plant-based meat meeting certain nutrition criteria (including fortification) is endorsed by their **National Nutrition Centre**.

Percentage of available plant-based meat products containing fortification in the UK (2021) Sweden (2022) and the Netherlands (2023)



Important micronutrients that represent fortification opportunities are:

- **B12.** Made by bacteria. Fortification is already the primary source in European diets, but usually via farmed animals fed fortified feed.
- **Iron.** Widely available in plants but harder to access in whole plant sources. Plant-based meat can have **similar bioavailability** to animal foods.
- **Calcium.** Conventional meat does not contain calcium, but deficiency is common and bioavailability is limited in plants, so plant-based meat could help meet this need.
- **Long-chain Omega-3s (EPA and DHA).** Made by algae. Seafood is a primary source in European diets today, but deficiency is common. New sources are urgently needed as current production from fish is unsustainable and **already insufficient** to meet global needs.
- **Zinc.** Low bioavailability from plants, a particular opportunity for plant-based meat made from fungi like mycoprotein.
- **Iodine.** Found in seaweed and seafood. Deficiency is common in Europe, and other fortification such as **through salt** has seen benefits.

Other important public health benefits

Even beyond reducing the harmful overconsumption of red and processed meat, there are important public health benefits that apply to all types of meat.

- **Combating climate change.** Climate change represents one of the biggest threats to public health in the modern era. Conventional animal agriculture represents **20% of global greenhouse gas emissions**, and is the single largest source of methane emissions. Switching to plant-based meat could cut these emissions by **80-90%**.

- **Countering antimicrobial resistance.** Antibiotics are the foundation of modern medicine, and overuse is beginning to make common illnesses untreatable and routine operations life-threatening, causing approximately **133,000 deaths per year** in Europe. Half of all antibiotic use in Europe is in animals, **contributing to the growth and spread** of antibiotic resistance. Plant-based meat production does not require antibiotics.
- **Reducing pandemic risk.** Using animals for food is a key **driver of pandemics**, both from exposure to diseases circulating among farmed animals and increased exposure to wild animals resulting from deforestation. Plant-based meat is made without animals and requires significantly less land to produce, minimising both of these core drivers.
- **Mitigating food insecurity.** War, climate shocks and supply chain vulnerabilities are already driving food shortages – yet Europe currently feeds **45% of all the crops** it produces to animals. To meet growing global demand for meat while protecting food security, protein diversification is essential.

Frequently asked questions

Isn't plant-based meat ultra-processed?

Plant-based meat is one of the product categories consumers **most associate** with being an ultra-processed food (UPF), but **research has found** that the ultra-processed designation does not always say much about how 'healthy' it is.

When comparing plant-based meat against the typically used definitions for UPFs, it is clear that they do not neatly fit. Alongside methods used to make them, UPFs are often defined as being high in calories, high in sugar, high in saturated fat and low in fibre – none of which apply to plant-based meat.

Plant-based meat is rarely mentioned in landmark studies on UPFs, and in studies breaking down impact by food group, UPFs providing a source of fibre such as plant-based meat **were in fact associated** with **reduced health risks**. However, ultra-processed conventional meat, which plant-based meat often replaces, makes up a **significant proportion of UPFs eaten**, and is frequently a subgroup associated with particularly negative health outcomes.

There is **growing criticism** of UPF as criteria in scientific studies, as it is very broad and is often applied inconsistently. It seems likely that other factors within foods such as high sugar, salt and saturated fat, or other ingredients already known to be harmful in excess such as alcohol and caffeine, are the primary drivers of the outcomes observed. Learn more on this topic [here](#).

Isn't it better to eat plant-based whole foods than plant-based meat?

Research has repeatedly found that plant-based whole foods like fruits, vegetables, beans, nuts and whole grains are **incredibly good for you**. On top of this, many are cheap and readily available. However, this has long been the case, yet overconsumption of meat remains a problem.

Taste and price are among the **most significant barriers** for consumers seeking to change or improve their diets – so, for many consumers, the idea of swapping their favourite meat for beans, nuts and vegetables is unrealistic.

Therefore, while increasing the availability and accessibility of plant-based whole foods is important, alongside this, options like plant-based meat can also play a crucial role as they are easier for consumers to incorporate into their diets on the path to more plant-based ways of eating.

How does plant-based meat affect my microbiome?

There is growing evidence that the gut microbiome could be important in many aspects of health, not

only in the gut, but also the immune system, blood sugar management, heart and brain function.

The considerably higher fibre content of plant-based meat compared to conventional meat suggests it may **benefit the microbiome**, and while only a small amount of research on this has been done so far, **two** randomised controlled **trials** studying this have found benefits for the microbiome associated with replacing conventional meat with plant-based meat.

Doesn't plant-based meat have lots of ingredients and additives?

Most of the food in supermarkets, including both conventional and plant-based meat, contain additives. All additives used in Europe must meet stringent food safety criteria, requiring a large body of high-quality evidence to be approved.

However, recently some concerns have arisen that certain additives may have previously unknown effects. Notably, nitrate compounds used to preserve processed conventional meat have been associated with an increased risk of bowel cancer.

Broadly speaking, looking for the presence of specific ingredients is far more useful than pursuing an arbitrary number, as some added ingredients, such as fortification with vitamins, can be beneficial. Likewise, 'naturalness' is not always a good indicator of healthiness: unpasteurised milk is more natural but also more likely to contain harmful bacteria.

Many of the most commonly used added ingredients in plant-based meat are very well understood and, given studies to date have broadly shown positive findings for health, it is unlikely that the ingredients used in them are cause for concern.

This summary is based on a larger report created by GFI Europe with input from expert external reviewers. [Read the full report here.](#)

Conclusions and recommendations

Plant-based meat offers people a straightforward swap that can meaningfully improve the quality of their diets without requiring significant behaviour change. Increased adoption can also deliver significant public health benefits, but key opportunities to enhance nutrition and support protein diversification remain.

The sector should:

- **Work to better communicate the health benefits** of their products to consumers.
- **Continue to explore ways to enhance nutritional composition**, such as through fortification and salt reduction.

Governments and funding bodies should invest in advancing research to:

- **Develop next-generation plant-based meat products** to allow optimisation of nutrient bioavailability and taste.
- **Diversify ingredient crops and expand breeding for plant-based meat applications.** This will improve the functionality of raw ingredients and nutritional value, reduce the need for processing and additional ingredients, and boost local production.
- **Advance novel processing technologies (including fermentation)** that can maintain or further boost the nutritional value of raw ingredients.
- **Support high-quality trials investigating the health impacts** of swapping conventional meat for plant-based meat to bolster the evidence base underpinning the important role of plant-based meat in public health.

About the Good Food Institute Europe

The Good Food Institute Europe is an international NGO helping to build a more sustainable, secure and just food system by transforming meat production.

We work with scientists, businesses and policymakers to advance plant-based and cultivated meat – making them delicious, affordable and accessible across Europe.

By making meat from plants and cultivating it from cells, we can reduce the environmental impact of our food system and feed more people with fewer resources. GFI Europe is powered by philanthropy.

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