

Plant-based ingredients are here to stay: Overview of integration across food and drink categories



Sponsored by:



1-3 December 2020

Frankfurt, Germany

Contents

State of the plant-based market	3
What is behind the rebalancing of diets?	4
Egg alternatives	6
Meat alternatives	7
Dairy alternatives	8
Sponsored content: Döhler urges investment in plant-based dairy alternatives	10
Crossing categories.	13
Plant-based claims	14
Defining the term 'plant-based'	15
Future plant-based innovations	16
Key takeaways	17



Food ingredients
Europe

Co-located with:



Health ingredients
Europe



Natural
ingredients



Expo
FoodTec



Organic
ingredients

**Innovation at the
heart of Europe:
Revealing the
trends of
tomorrow**



informa markets



1-3 December 2020

Frankfurt, Germany

**30 November -
2 December 2021**

Paris, France

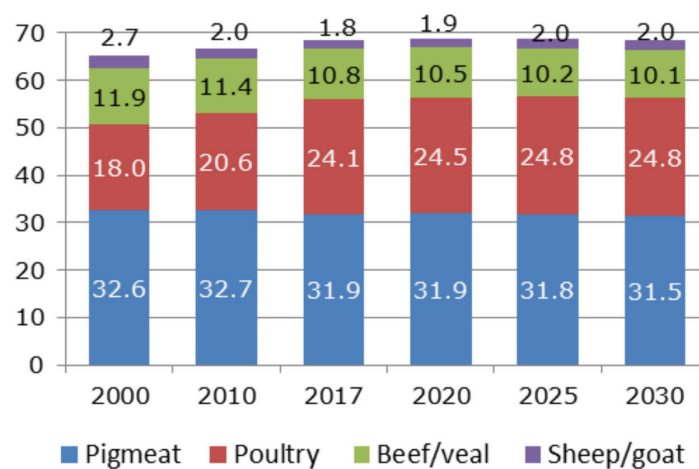
JOIN US

www.figlobal.com/fieurope

State of the plant-based market

The global market for plant-based foods has grown rapidly. Since 2012, the plant-based market in Western Europe has doubled in size, according to Euromonitor International, and Europe as a whole accounted for 38.5% of total global revenue in 2017.¹ However, contrary to what many consumers claim about their individual habits, plant-based foods are not yet replacing a large amount of meat. Globally, meat consumption is on the rise (1.4% per year through 2023 according to the new Packaged Facts report Global Meat & Poultry Trends),² while in Europe the market remains stable with per capita consumption:

EU per capita consumption by meat type (kg)



Source: European Commission, EU agricultural outlook 2017-30³

The types of meat people are eating have changed, however, towards more chicken and away from red and processed meats. Only by 2030 does the European Commission predict that Europeans will be consuming less meat overall – and even then, it only expects a slight dip, from 69.3kg per capita in 2018 to 68.6 kg in 2030.⁴

Nevertheless, the market for plant-based meat alternatives in particular, is on a strong upward trajectory. According to Swiss investment firm UBS, the sector's global value had grown to \$4.5 billion by 2018, and it expects this to rise to \$85 billion by 2030.⁵ But a broader shift has been occurring toward more plant-based diets as a whole, including eating more vegetables, grains and legumes.⁶

Plant-based claims on products have increased over the past years by 68%.⁷ Manufacturers in categories like baked goods and snacks, frequently use such claims to signal the use of less common, and often highly nutritious, plant-based ingredients, as they look for ways to capitalise on consumer interest in the health profile of plant-based diets. The report examines the many ways animal-based ingredients are being replaced by their plant-based alternatives, as a response to rising consumer awareness and strive to include more plant-based products in their diets.

What is behind the rebalancing of diets?

The reasons for dietary change on this scale are certainly based on a growing body of evidence related to the benefits of plant-based foods, as global public health authorities urge populations to include more of them in their diets; however, they also relate to perceived negatives of animal-based foods and environmental factors. A growing number of consumers are merely reducing meat in their diets, not eliminating it completely.

Health, ethics and the environment are driving consumers towards plant-based foods

Vegan claims may be attractive to consumers who are trying to eat less meat, but less helpful to flexitarians who purchase meat substitutes as a way to eat more vegetables.



Source: Mintel GNPD 2020⁸

It has never been a question of whether people wanted to include more plant-based ingredients in their diets, but rather, how convenient it is for them to do so. Julian Mellentin, Director of New Nutrition Business, stated at Food Ingredients Europe 2019 that:

*"People want extreme convenience more than anything else."*⁹

Many manufacturers have therefore spotted this gap in the market and are finding ways to introduce vegetables to consumers in more convenient forms.



Source: Mintel GNPD 2019¹⁰

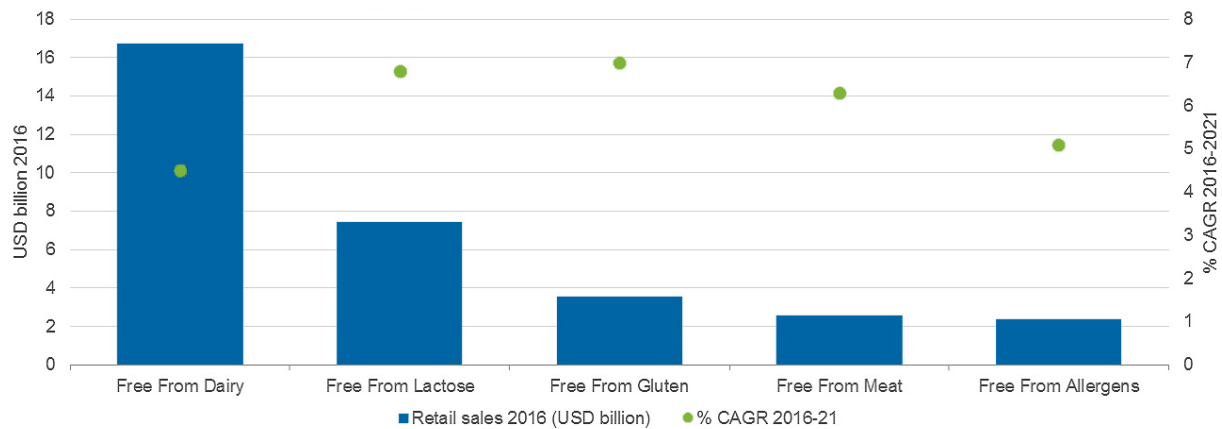
The rise in plant-based claims globally, has created even more opportunities for ingredient and branded product firms to blend plants with existing products such as bread, dairy and even meat-based products, in order to increase plant content – which is what consumers are looking for. Mellentin commented:

"I don't think any food product category should be ruled out and if it is possible for consumers to experience a tangible benefit, then this is a big plus."¹¹

Free-from foods have also seen increased demand, whether their consumers suffer from an allergy or not.¹² Such foods include dairy-free, gluten-free and meat-free, but often overlap with other popular diet plans such as keto and paleo. Moreover, free-from foods are often associated with gut health, as certain ingredients are thought to trigger digestive complaints in some individuals. These might include lactose or dairy in general.



Free From by Type: Retail Value Sales 2016 and Growth 2015-2021



Source: Euromonitor ¹³

Plant-based products are appealing to vast numbers of consumers: those following strict vegetarian or vegan diets, those looking to eliminate certain ingredients from their diet, and those wanting to increase the daily intake of plant-based foods. Possibilities for new product development (NPD) are thus endless, from completely substituting animal-derived ingredients with their plant-based alternatives or blending the two.

Egg alternatives

Egg replacer ingredients have long been the subject of supplier innovation, largely driven by unstable egg prices. Now, the drive toward plant-based diets gives manufacturers an additional reason to consider alternatives – as well as an additional marketing platform.

Egg replacers have become more acceptable to consumers as companies have started supplying vegan alternatives that they can use at home, such as JUST Egg in the United States. Social media has also raised the profile of simple ingredients like aquafaba, the liquid drained from canned chickpeas, which has similar foaming properties to egg whites.



Source: Mintel GNPD¹⁴

Just Plant-Based Scramble Egg is said to scramble just like a scrambled egg.



Source: Mintel GNPD¹⁵

Oggs Victoria Sponge Mini Jammy Marvels are described as egg- and dairy-free mini sponge cakes filled with raspberry jam and a vanilla frosting and baked using Oggs Aquafaba.

Among emerging companies in this area are FUMI Ingredients, the winners of the Most Innovative Alternative Food or Beverage Ingredient category at the 2019 Fi Global Startup Innovation Challenge. FUMI Ingredients have developed a scalable process to produce a highly functional egg white replacer from organisms like yeast and microalgae.

Industrial egg alternatives are often plant-based, and include various starches, proteins, fibres and hydrocolloids – companies often use a combination of these to achieve a certain result in finished products.

Tiia Morsky, Ingredients Research Team Leader at Campden BRI said during the Fi Europe Conference 2019:

“The ingredient list is quite long and is definitely not clean in many cases.”¹⁶

She suggested that pulses could provide some interesting new egg replacement ingredients, particularly for baked goods in which they can mimic some of the foaming, emulsification and gelling properties typical of eggs. She added:

“Egg protein is completely different compared to any of the plant-based materials. In plant-based proteins, there’s a lot of proteins – a lot of smaller proteins – while egg has a couple of major ones. That is the challenge for food scientists, because it’s not easy to isolate those proteins from pulses for egg replacement ingredients.”¹⁶

However, peas, beans and lentils have shown promise in bakery products; although more work is needed to fully understand their functionality under different conditions and temperatures.

Meat alternatives

Among the best-known brands to hit the market so far, are the Impossible Burger and the Beyond Burger; both of which replicate beef. Wicked Healthy is marketing Good Catch plant-based tuna (a blend of chickpeas, lentils, soy, fava beans, navy beans, algae and seaweed);¹⁷ and UK company THIS, recently secured £4.7 million in seed funding to scale up production of its bacon and chicken analogues — mainly from pea and soy protein.¹⁸

For manufacturers of meat alternatives, sourcing suitable plant-based ingredients is just the first step. Texture has been a particular hurdle for those looking to make meat-like products, but advances in processing and extrusion technology have led to plant-based substitutes with a similar fibrous texture to chicken, and most recently, Vivera in the Netherlands have produced plant products with a similar bite and mouthfeel to that of ribs and steak.



Source: Vivera¹⁹



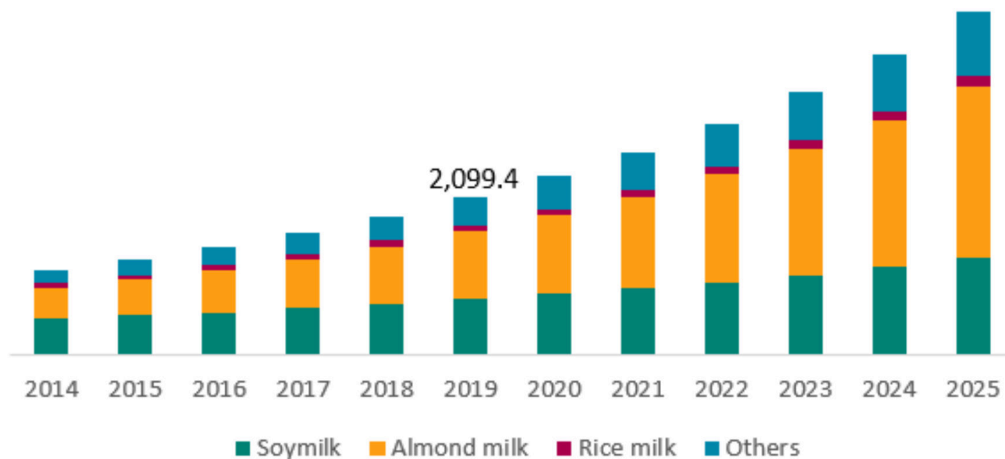
Food scientists at Leatherhead Food Research have suggested that, while it may be possible to produce a desired texture with just one plant protein, blending proteins together could optimise the textural profile.²⁰ This has been Impossible Foods' approach, for example, which uses a blend of proteins from soy and potato, along with hydrocolloids for a more meaty texture.²¹

Suppliers and researchers have also been working on mitigating some of the flavour challenges traditionally associated with some plant-derived proteins. Pea protein supplier PURIS, has focused on minimising off-flavours at the seed level,²² for example, while NIZO Food Research has found enzymes that can degrade hexanol, one of the key compounds responsible for undesirable flavour and aroma in soy and pea proteins.²³

Dairy alternatives

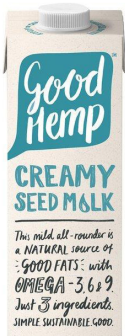
While plant-based meat alternatives have been attracting headlines for their transition from vegetarian niche to the mainstream, the market for plant-based dairy products is also on the rise and has seen some of the most dramatic change in the plant alternatives sector over the past few years. Until 2015, soy was the number one ingredient for milk alternatives in Europe, for instance, but almond has taken over with an estimated CAGR of 16.7% from 2020 to 2025.²⁴

**Europe dairy alternatives market estimates and forecasts,
by product, 2014 - 2025 (USD Million)**



Source: The Vegan Society²⁴

Other products are based on diverse grains, nuts and seeds; such as oats, coconut, rice, pea, hemp, and cashew.



Source:
Mintel GNPD²⁵



Source:
Mintel GNPD²⁶



Source:
Mintel GNPD²⁷



Source:
Mintel GNPD²⁸



Source:
Mintel GNPD²⁹

According to the UK's Vegan Society, almond's popularity among milk alternatives stems from its texture, which is thicker and creamier than other plant-based products, making it suitable for both beverages and food products.³⁰ The organisation expects soy-derived alternatives to retain a significant market share, but it suggests rice milk could lag behind in Europe because its thinner texture makes it less suitable for use in hot drinks. Lesser known alternatives could get a boost from younger consumers, it suggests, as they tend to be more interested in novelty and are one of the main demographics driving consumption of plant-based products.³⁰

Animal-free yoghurts, desserts and cheeses, have followed on from the boom in milk alternatives; however, there is still a long way to go in terms of consumer acceptability. The vegan cheese category holds the strongest market share and is expected to grow 13% a year from 2020 to 2025, as according to Grand View Research, but there are strong regional differences. Germany leads the European vegan cheese market, with a value of \$117 million in 2019. In France, where animal-derived cheese consumption is very high, the market researcher valued the segment at just \$22.5 million in 2019.³¹

But there is also a growing number of launches of blended milk products, bringing new nutritional profiles, tastes and textures.



Source: Live Real Farms³²



Rene Krebs
Head of the Cereals, Nuts
& Pulses Business Unit
Döhler Group

Döhler urges investment in plant-based dairy alternatives

Döhler is a global producer, marketer and provider of technology-driven natural ingredients, ingredient systems and integrated solutions for the food and beverage industry. Plant-based foods are part of Döhler's DNA. Informa spoke to Rene Krebs, Head of the cereals, nuts & pulses business unit, about the evolution of plant-based dairy alternatives, industry-wide challenges, and the R&D focus for the next five years.

Plant-based products are enjoying a surge but they are not exactly new. How has the consumer base evolved?

Twenty years ago the main target consumers were people with allergies or intolerances, such as lactose intolerance. Plant-based dairy alternatives had a distinctive taste and expectation was quite low. As the allergen-free market has developed, plant-based foods have moved into new applications, like yoghurt and cheese, and the product taste and the quality has improved significantly.

Now the major driver is sustainability, as people are aware that plant protein is much lower impact than animal protein. Health and wellness is also important, especially in Europe and North America. And of course people with allergies continue to support the plant-based market.

What are the sustainability considerations when sourcing raw materials?

As the world's population will rise to around 10 billion by 2050, global meat and milk production will also increase – with a significant impact on the environment. Eighty percent of agricultural land is already being used for livestock farming. Worldwide, livestock accounts for between 14.5% and 18% of human-induced greenhouse gas emissions. Thus, food production affects climate change.

The less we ship over the ocean the better. We can reduce our carbon footprint by sourcing within the region – and sometimes within a country, but then you have a conflict between economy and ecology because it may not be competitive. The exception is coconut, which is one of the only plant raw materials that is still shipped long distances because it doesn't grow everywhere.

Regional sourcing also impacts the carbon footprint of our customers downstream. We can give quite precise numbers on the impact of our recipes thanks to our sustainability programme, which we are continually strengthening to increase transparency.

How do you tackle sensory issues and other technical challenges?

On the sensory side, our philosophy is like medicine. We do as much as we can through prevention by paying attention to raw materials and processing technology, rather than curing off-notes at the end through flavour masking.

With the new generation of plant-based drinks we have to address issues of shelf life. Traditional plant-based products, like orange juice, have a low PH. The acidity makes shelf-life more manageable. But with oats, rice and almonds the PH is neutral so microorganisms grow faster. We want to achieve the highest shelf life feasible without using chemical ingredients.

What other challenges does the industry face?

The per capita demand is there and retailers want to cater to it, but there is a lack of capacity on the production and filling side. Water companies cannot bottle plant-based beverages because they are mostly unsuitable for UHT treatment, while many dairy companies are owned by farmers who are not in favour of facilitating the market for dairy alternatives.

Conversion of the dairy market to plant-based products in the southern part of Europe is around 10-15%. In Scandinavia, where there are some major players, it is 5-6%, but in Germany it is 1-2% at best. It is similar in France, UK, Holland and Eastern Europe. This shows the limitations due to lack of capacity, and it will probably last for the next two years.



How do you expect the dairy alternative market to evolve?

The biggest raw material in Europe is soy and the upcoming challengers are oat, rice, coconut, and almond. These are the 'mainstream' generation today and they have not yet reached their peak. While some new raw materials are emerging, there is less pull to develop the generation of tomorrow.

Döhler's approach is 'field to food application'. We are working on different raw materials, looking at different innovative technologies and applications – from drinks, to spoonable yoghurts, to cheese, to meat, to bakery, to confectionery. This is where the focus will lie for the next five years.

In the longer term, bio fermentation (or enzymatic technology) is on the horizon. There are some bio fermented products on the market but the demand is still small and it is too early to say whether they will go mainstream.

Is plant-based market growth anywhere near peaking?

It is hard to see a clear picture of the audience for plant-based products because it is not as homogenous as for other categories. There are no clear preferences; some people prefer oat but dislike rice, and vice versa. There might be growth from taking away from the dairy industry, from the meat industry, and from the cheese industry.

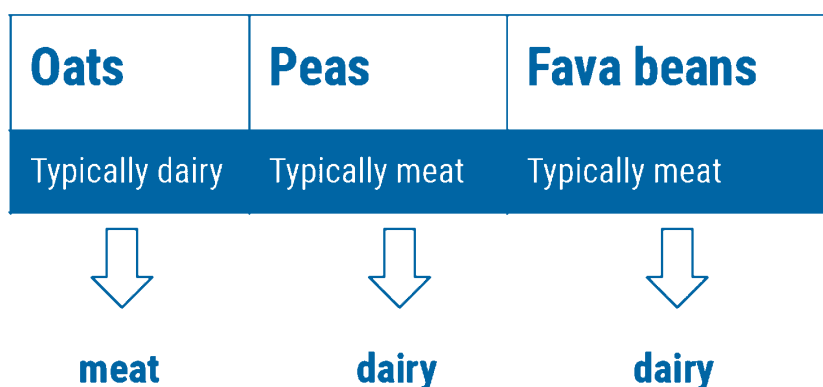
From my personal point of view I am convinced that the plant-based sector will continue to grow due to people's increasing health awareness and sustainability concerns.



Crossing categories

Upcoming plant sources for meat, dairy and egg alternatives include duckweed, chickpea, fonio, and – although not strictly a plant – algae.

According to ProVeg International, raw materials traditionally associated with one product category are starting to find applications elsewhere.³³ For example, while fava beans and peas have most commonly been used in meat alternatives, they are now being used in dairy alternatives. Similarly, oats have found a home in the dairy alternatives' category – particularly as oat-based beverages froth in a similar way to cow's milk – but companies are starting to experiment with oats in meat alternatives too.



Source: Plant-based market Insights Report 2019, ProVeg International.³³

The plant-based category is also evolving with increasing awareness of demand for clean label foods. Atze Jan van der Goot, Professor in Sustainable Protein Technology at Wageningen University in the Netherlands, argued at the Future of Nutrition Summit 2019 that nutritional equivalence with meat is not necessarily indispensable for plant-based meat alternatives, and could lead to shorter ingredient lists. He said:

“As food scientists, there is a very interesting new world to discover in how to get the taste and texture that is now obtained by using this big list of heavily processed ingredients with less purified, or less intensively processed, ingredients.”³⁴





Plant-based claims

Plant-based claims have increased 68% globally over the past five years as companies have seen an opportunity to tap into demand, according to Innova Market Insights;³⁵ even though many of the products that carry such claims were always free from animal products.

Source: Satisfied Snacks³⁷

Such products include crisps based on vegetables or beans, or pulse flours incorporated into baked goods. UK-based Satisfied Snacks, for instance, takes whole foods such as beetroot, red peppers and tomatoes, and makes them into crispy snacks without using any sugar, frying or binders. In addition, it plays up its eco-friendly credentials with no plastic packaging and its use of 100% renewable energy in manufacture, answering consumers' demand for all-round health and sustainability, rather than plant-based diets alone.³⁶

Founder and CEO Heather Daniell said:

"It may be easier for new market entrants to establish those sustainability credentials from the ground up... Nonetheless, the numbers are looking exciting as though consumers are starting to respond to more sustainable products."³⁸

According to Julian Mellentin, Director of New Nutrition Business, people want to eat more plant-based foods for their health, but convenience is crucial. Responding to this, a growing number of companies are using plant ingredients like powdered vegetables to improve their products' nutritional profile. During Bread and Bakery Masterclass at Fi Europe 2019 Mellentin said:

"Possibly, the bakery category is in a better position to do this than most other categories."³⁹

Finnish bakery manufacturer Fazer, for instance, makes bread with less flour and up to 33% vegetables, while Pizza Express, Dr Oetker and Caulipower are among those making vegetable-based pizza crusts. Mellentin said:

"That's really talking to people's desire to have plants in a convenient, good-tasting format."³⁹

He added that such substitutions in traditionally high-carb recipes could also tap into the low-carb trend that increasingly has entered the mainstream as a way to lose weight and tackle type 2 diabetes.

Defining the term ‘plant-based’

According to Director of Innovation at Innova Market Insights, Lu Ann Williams, the term ‘plant-based’ tends to have a broader definition for consumers than it does for the industry; referring not only to plant proteins, but also to sectors like botanicals, green tea and plant extracts. She said:

“There are huge opportunities for making plant-based claims. We found that consumers prefer the sound of ‘plant-based’ to ‘vegetarian’ or ‘vegan’... The industry is still figuring out the terminology.”⁴⁰

Sports nutrition is one sector seeing overlap between the demand for plant-based products and other consumer trends. According to Associate Director, Specialised Nutrition at Mintel, Rick Miller;

“Consumer demand for more plant-based integration into established food and drink categories, with more sustainable and ethical production methods and cleaner labels, are well-established trends that will only likely strengthen in the years to come.”⁴¹

He said that certain dieting trends such as paleo and keto were also merging with the plant-based trend, as low-carbohydrate, plant-based protein products improve.

Similarly, categories like ice cream have diversified to make room for plant-based varieties that appeal to consumers concerned about calorie and fat content, rather than necessarily about whether a product is vegetarian or not. For manufacturers, using the term ‘plant-based’ is likely to encompass a greater share of consumers than terms like ‘vegan’, ‘vegetarian’ or ‘flexitarian’.



Future plant-based innovations

Plant-based innovations have moved well beyond alternative proteins – although they remain an important segment – to include all kinds of foods, beverages and ingredients. The range of innovative products is broad, and some have been mentioned already in this report. The Fi Global Startup Innovation Challenge provides a good indication of the direction in which companies are exploring novel developments in the sector.⁴²

Most Innovative Plant or Cereal-based Food or Beverage Ingredient finalists at the Fi Global Startup Innovation Challenge

Category winner:



Better Nature Ltd: This food tech company has updated traditional tempeh fermentation to make it suitable for use in modern meat alternatives, like burgers, bacon and mince. The company aims to make wholefood plant-based meat alternatives that are not only high in protein, but also free from artificial and ultra-processed ingredients.

Finalists:

Caffe Ink: Extracts a brown-black colorant from spent coffee grounds to provide a plant-based food colouring. The company is based on a circular economy mindset, and uses other compounds from coffee grounds, such as oil, to help close the loop of the food value chain.

Krusli: Creates healthy, low-sugar breakfast products from rescued food, like brewers' grain, wheat bran, undersized and broken seeds and nuts, and peanut butter, that otherwise would be wasted. The company aims to work together with the food industry to identify potential ingredients for its cereals, which currently come in four varieties: Peanut butter & Banana, Apple & Walnut, Beetroot & Ginger and Sweet Potato & Coco.

Innovopro Ltd: Provides a chickpea protein 70% concentrate, which is already being tested by hundreds of food companies as a new non-allergenic, clean label protein source. The company says it provides good functionality, nutrition, taste and mouthfeel, and several products have already been launched with the protein.

Key takeaways

- Consumers are adopting more plant-based foods, but usually as part of a diet that still includes meat and dairy.
- Plant-based is about more than meat alternatives. Consumers also are looking for more fruits, vegetables, grains and legumes in convenient formats.
- Pulses like peas, beans and legumes could provide cleaner label alternatives for egg replacement.
- Plant-based meat alternatives are diversifying and becoming increasingly meat-like with developments in texture, plant protein blends and flavour modification.
- Almond-derived milk alternatives now are more popular than those based on soy in Europe – although soy looks set to retain significant market share.
- The clean label concept is starting to take off in plant-based products, with more focus on minimal processing and shorter ingredient lists.
- Environmental concerns have become the primary driver for choosing plant-based foods, but researchers increasingly aim for sustainability, health benefits and functionality in NPD.



Sources

- ¹ <https://www.euromonitor.com/driving-forces-behind-plant-based-diets-climate-concern-and-meat-reduction/report>
- ² <https://www.ift.org/news-and-publications/news/2020/march/02/global-meat-consumption-continues-to-rise>
- ³ https://ec.europa.eu/info/news/eu-agricultural-outlook-european-livestock-sector-benefit-higher-global-demand_en
- ⁴ https://ec.europa.eu/info/news/eu-agricultural-outlook-2018-2030-changing-consumer-choices-shaping-agricultural-markets-2018-dec-06_en
- ⁵ <https://www.ubs.com/global/en/wealth-management/marketnews/home/article.1441202.html>
- ⁶ <https://www.nielsen.com/us/en/insights/article/2017/plant-based-proteins-are-gaining-dollar-share-among-north-americans/>
- ⁷ <https://insights.figlobal.com/clean-label-natural/resonating-consumers-why-storytelling-top-trend-2020>
- ⁸ Mintel GNPD <https://clients.mintel.com/report/patent-insights-next-gen-plant-protein-ingredients?fromSearch=%3Ffreetext%3Dplant%2520based>
- ⁹ Fi Europe 2019, Fi Conference, presentation by Julian Mellentin, New Nutrition Business – "Plant-based: how to connect to the blossoming opportunities"
- ¹⁰ Mintel GNPD <https://clients.mintel.com/insight/fi-europe-2019-what-s-next-for-plant-based-diets?fromSearch=%3Ffreetext%3Dmeat-free>
- ¹¹ Fi Europe 2019, Fi Conference, presentation by Julian Mellentin, New Nutrition Business – "Plant-based: how to connect to the blossoming opportunities"
- ¹² <https://blog.euromonitor.com/bright-future-for-free-from-food-movement/>
- ¹³ <https://blog.euromonitor.com/bright-future-for-free-from-food-movement/>
- ¹⁴ Mintel GNPD <https://www.gnpd.com/sinatra/recordpage/6493577/>
- ¹⁵ Mintel GNPD <https://www.gnpd.com/sinatra/recordpage/6637981/>
- ¹⁶ Fi Europe, Bread and Bakery Masterclass 2019, presentation by Tiia Morsky "Plant-based clean label ingredient solutions for the bakery industry"
- ¹⁷ <https://wickedhealthyfood.com/2019/02/21/launch-of-good-catch-fish-free-tuna/>
- ¹⁸ <https://agfundernews.com/this-plant-based-meat-startup-4-7-million-in-seed-funding.html>
- ¹⁹ <https://viverra.com/nl/product/viverra-plant-steak/>
- ²⁰ <https://www.leatherheadfood.com/white-paper/whats-new-in-the-world-of-proteins/>
- ²¹ <https://faq.impossiblefoods.com/hc/en-us/articles/360018937494-What-are-the-ingredients->
- ²² <https://www.cargill.com/doc/1432129665284/puris-pea-protein.pdf>
- ²³ https://www.researchgate.net/publication/313656807_Flavor_Aspects_of_Pulse_Ingredients
- ²⁴ <https://www.vegansociety.com/news/market-insights/dairy-alternative-market/european-plant-milk-market>
- ²⁵ Mintel GNPD https://www.gnpd.com/sinatra/recordpage/7299185/?utm_source=fed_search
- ²⁶ Mintel GNPD <https://www.gnpd.com/sinatra/recordpage/6430261/>
- ²⁷ Mintel GNPD <https://www.gnpd.com/sinatra/recordpage/6436485/>
- ²⁸ Mintel GNPD <https://www.gnpd.com/sinatra/recordpage/5728913/>
- ²⁹ Mintel DNGP <https://clients.mintel.com/report/a-year-of-innovation-in-plant-based-drinks-yogurt-ice-cream-2020?fromSearch=%3Ffreetext%3Dplant%2520based>
- ³⁰ <https://www.vegansociety.com/news/market-insights/dairy-alternative-market/european-plant-milk-market>
- ³¹ <https://www.grandviewresearch.com/industry-analysis/vegan-food-market>
- ³² <https://liverealfarms.com/dairy-plus-milk-blends/>
- ³³ Source: Plant-based market Insights Report 2019, ProVeg International. https://ubmemeaensoprod.s3.amazonaws.com/FI_fieurope/plant-based_market_insights_by_proveg_international.pdf
- ³⁴ Future of Nutrition Summit, Fi Europe 2019, presentation by Atze Jan van der Goot "Towards sustainable ingredients for meat analogue applications"
- ³⁵ <https://www.innovamarketinsights.com/?s=2020+trends>
- ³⁶ Future of Nutrition Summit 2019, Presentation by Heather Daniell "Sustainability from farm to fork: the business case for the sustainable manufacturing of innovative products"
- ³⁷ <https://www.satisfiedsnacks.co.uk/>
- ³⁸ Future of Nutrition Summit 2019, Presentation by Heather Daniell "Sustainability from farm to fork: the business case for the sustainable manufacturing of innovative products"
- ³⁹ Fi Europe 2019, Fi Conference, presentation by Julian Mellentin, New Nutrition Business – "Plant-based: how to connect to the blossoming opportunities"
- ⁴⁰ <https://insights.figlobal.com/trends/resonating-consumers-why-storytelling-top-trend-2020>
- ⁴¹ Fi Europe Conference 2019, presentation by Rick Miller "Cutting edge sports nutrition"
- ⁴² <https://www.figlobal.com/fieurope/en/show-highlights/startup-innovation-challenge-2019-finalists-winners.html>



