

Big things

have small beginnings



Growth of meat and dairy alternatives is stirring up the European food industry



Introduction

Preface

Plants-based foods are shaking up the meat- and dairy market

For many Europeans meat and dairy are staple foods. However traditional consumption patterns are slowly shifting and meat and dairy consumption has reached its peak in the EU*. In [our previous report on protein](#), we found that around one quarter of Europeans anticipate a reduction of their meat consumption. This is mainly due to health, animal welfare, environmental or financial reasons. A similar pattern can be distinguished in dairy. At the same time plant-based meat and dairy substitutes are among the fastest-growing categories in the industry thanks to increased consumer demand and a wave of new products.

The impact of the plant-based trend on the food industry

While some claim that all meat and dairy will eventually be replaced by plant-based alternatives, we don't believe this is realistic. However the momentum behind meat and dairy alternatives is far from over. To substantiate our view this report provides a comprehensive analysis of the plant-based trend and its impact on food companies. In the first chapter we give a picture of the size of the plant-based alternatives market in the EU and the UK. In the second chapter we identify the barriers that will determine if plant-based products can maintain their growth from now until 2025. And finally in the third chapter we share our view on the strategic and financial implications for food companies in Europe.

Research methodology

The findings of this report are based on extensive desk research, expert interviews and market data provided by Euromonitor. To provide insight into consumer attitudes we use the results of ING's own representative consumer survey in the Netherlands.

*according to projections made by the European Commission

Contents

Executive summary	3
1. Plant-based meat and dairy alternatives in the EU and the UK	4
Definition: products created with the purpose of replacing meat or dairy	5
Meat alternatives: it all begins with mimicking popular processed meat products	6
Dairy alternatives: first milk then the rest?	7
2. Three important barriers towards 2025	8
Three barriers can slow down plant-based success	9
Prices: partial price parity expected by 2025	10
User experience: still a lot of work to be done	11
Availability: expect to see plant-based products pop up in more places	12
Meat and dairy alternatives market grows to 8 billion in 2025	13
3. The impact on the European food industry	14
Plant-based trend leads to reshuffling of the cards in food industry	15
Meat and dairy companies: not much to win in Europe but a lot to lose	16
FMCGs: Double whammy, high growth potential and a positive social impact	17
Start-ups: survival of the fittest	18
With thanks to	19
Would you like to know more?	20

Executive summary

Despite high growth, plant-based is still a small category

Retail sales of meat and dairy alternatives in Europe have grown by almost 10% per year between 2010 and 2020. Much of this achievement can be attributed to the introduction of new products and the underlying trend among consumers to consider health, animal welfare and sustainability in their decision making. But the rise of plant-based sales is coming from a small base and alternatives represent only 0.7% of the market for meat and 2.5% of the dairy market.

Three barriers determine future growth

The supply of meat and dairy alternatives will keep evolving and future growth will depend on the food sectors' ability to:

1. bridge the price gap with animal based products;
2. improve the user experience (through better taste and nutritional profile);
3. Increase distribution and availability.

Alternatives market grows to 7.5 billion EUR in 2025

The current level of investment and innovation in the food industry and the supply chain indicate that the three barriers will be lowered substantially over the next five years. As a result we expect the market for meat and dairy alternatives to be able to maintain its growth rate of around 10%. This means retail sales of meat alternatives could increase to 2.5 billion EUR and retail sales of dairy alternatives to 5 billion EUR in 2025. According to our calculations, the market share for meat alternatives is set to increase to 1.3% and for dairy alternatives to 4.1%.

Fireworks expected as competition intensifies

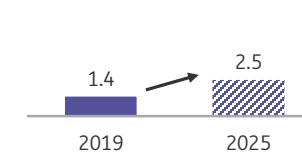
Start-ups were the first movers in the competition for 'the plant-based consumer' soon followed by FMCGs. As more and more meat and dairy companies focus on this space competition increases making it increasingly difficult for new plant-based startups. Continued investment in technology, ingredients and marketing is leading to more sophisticated products and companies with a subpar product will have a hard time staying on the shelves. Over the next five years the battle over market share will heat up, especially in established markets in Northwestern Europe. At the same time there are opportunities to bring successful products to additional countries and to take plant-based alternatives to adjacent categories.

Still a long way to go to surpass sales of meat and dairy

While the spotlight is definitely on plant-based, the hard figures show that for the time being meat and dairy remain the dominant protein source in Europe. The sheer size of the meat and dairy market and the small base for plant-based alternatives mean that, even at the current growth rate, it would take until the mid 2050s before sales of 'plant-based meat and dairy' could surpass sales of meat and dairy.

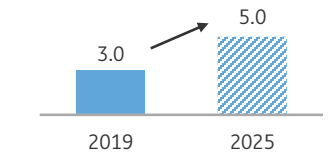
Market for meat alternatives expected to grow to 2.5 billion in 2025...

Value of retail sales in EU and UK



...and dairy alternatives expected to rise to 5 billion in 2025

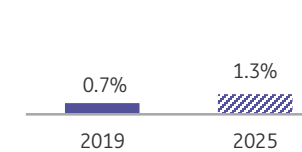
Value of retail sales in EU and UK*



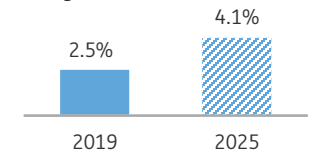
Plant-based alternatives claim a bigger part of the market

Share in retail sales in meat and dairy category in EU and UK

Meat alternatives



Dairy alternatives

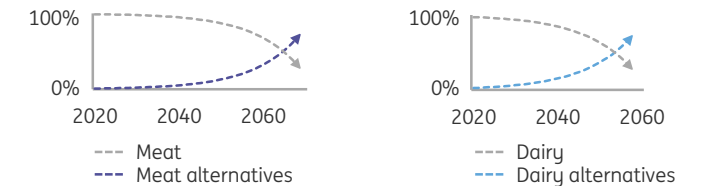


Source: Euromonitor, forecast ING Research

*Excluding margarine which accounts for 4.5 to 5 billion in retail sales

Starting from a small base means it would take decades before alternatives could surpass meat and dairy

Depiction of the long term development of market share in a high growth scenario*



*based on the assumption that sales of meat and dairy alternatives would maintain an annual growth rate of 10% and growth would be at the expense of regular meat and dairy

Chapter 1



Plant-based meat and dairy alternatives in the EU and the UK

Definition: Products created with the purpose of replacing meat or dairy	5
Meat and meat alternatives: It all begins with mimicking popular processed meat products	6
Dairy and dairy alternatives: first milk then the rest?	7

1.1 Definition: products created with the purpose of replacing meat or dairy

Processed products with the purpose of replacing meat or dairy

A consumer deciding on replacing a meat or dairy product has many plant-based options to choose from. Only some of these alternatives fall within the narrow definition that we use in this report and that is based on two elements:

1. Only industrially processed products (leaving out wholefoods);
2. And products that are explicitly created and marketed with the purpose of functionally replacing meat or dairy.

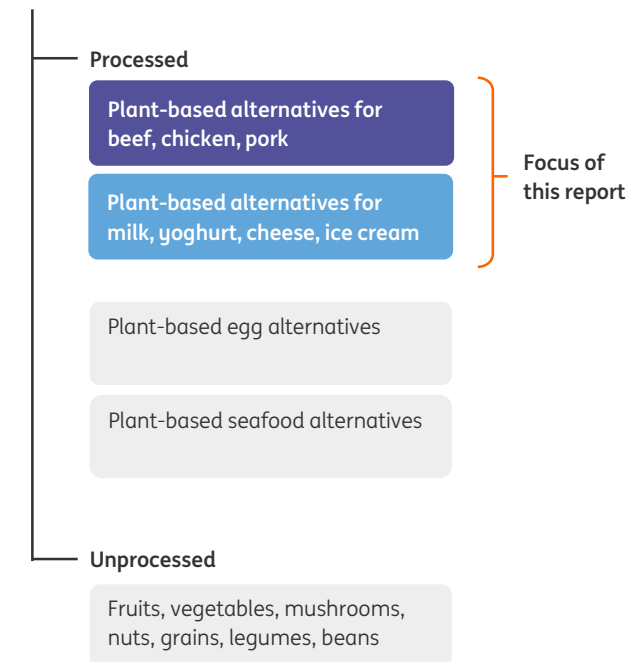
New technologies provide impulse to an ancient category

The broad category of plant-based alternatives consists of products that have been around for quite some time (like soya drinks, tofu, falafel, margarine) and a new generation of products (like plant-based hamburgers, almond drink, non-dairy cheese). Especially this latter group is experiencing particularly high growth thanks to the considerable investments made by start-ups, traditional meat and dairy companies and general food producers.

Consumers who are looking to replace meat or dairy can choose from processed or unprocessed alternatives

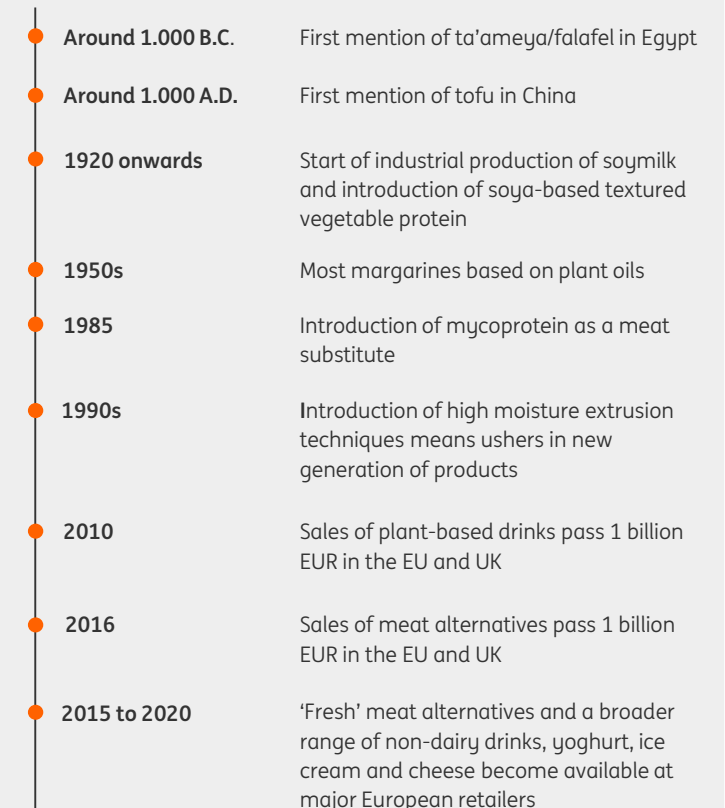
Breakdown of the market for plant-based alternatives

Plant-based options for consumers



Nothing new under the sun: plant-based alternatives have been around for centuries

A short timeline of the development of plant-based alternatives



1.2 It all begins with mimicking popular processed meat items

Market share of meat substitutes is still very small

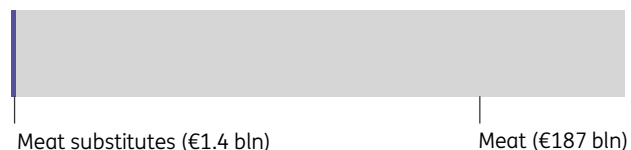
Meat substitutes like plant-based burgers and sausages currently account for almost 1.4 billion EUR in retail sales in the EU and the UK. The category has seen double digit growth over the last decade. Growth really took off around 2012 and 2013 owing to the combination of a favourable economic environment and curiosity among consumers sparked by new products and the buzz on social media. Nevertheless substitutes only account for 0.7 percent of total meat sales.

Some countries have more appetite for plant-based meat

There are considerable differences between European countries. The UK is by far the most developed market and total retail sales amounted to 440 million EUR in 2019. Besides the UK also Germany, Italy, The Netherlands and France have retail sales of more than 100 million euro. Consumption per capita is highest in the Nordics, the Benelux and the UK and lowest in Southern and Eastern Europe.

Meat substitutes are still only a fraction of total meat market

Value of retail sales meat and meat substitutes, 2019



Source: Euromonitor, total meat market = ING estimate

Producers focus on alternatives for processed meats and cold cuts

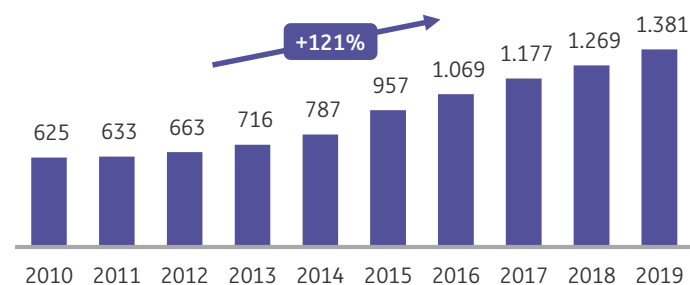
The dominant trend among plant-based producers is to focus on the most popular processed meat products. In countries with a relatively developed market all popular processed meat products have a plant-based counterpart that is available at most retailers.

High-end part of meat market remains unaffected

So far, prime meat cuts such as beef steak, pork tenderloin, lamb chops and specialty meat like veal don't have a plant-based alternative. It is simply not possible to create something similar using the current technology, and it remains to be seen whether this will be possible in the near future.

Sales of meat substitutes have more than doubled over the last decade

Value of retail sales meat substitutes in EU and UK, in million EUR



Source: Euromonitor, edited by ING Research

"We aim to bring plant-based products to the new generation mainstream consumer. They provide a lot of growth potential."

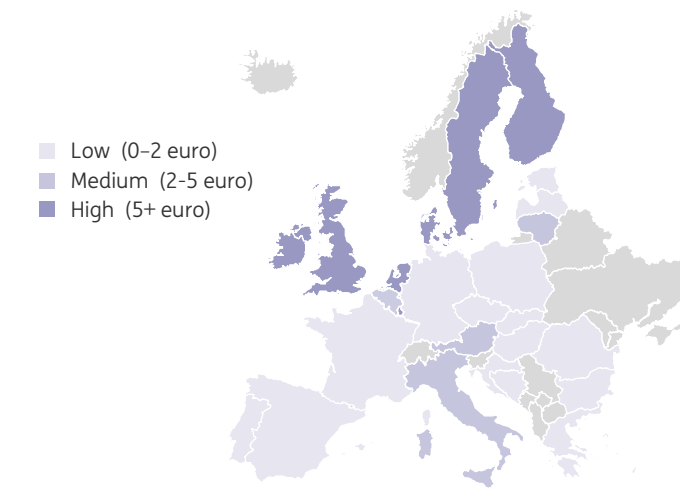
- **Maarten Vriesendorp, Vivera**

"The market for meat is very big. If meat alternatives grow to 2% market share, that is already a huge step given the scale that is needed."

- **Arie Boelens, Barentz**

Meat substitutes most popular in Northwestern Europe

Consumer spending on meat substitutes per capita in EU and UK, per year



Source: Euromonitor, edited by ING Research

1.3 Dairy alternatives: first milk then the rest?

Dairy alternatives have gained a market share of 3%

European consumption of dairy is at a very high level compared with the global average. Sales of products like milk, cheese, yoghurt and ice cream add up to a 115 billion EUR in the EU and the UK. The consumption of milk is under pressure, but demand for cheese is expected to grow at a moderate pace. Within the total dairy market, alternatives have a share of 3% and the category has experienced annual growth rates of around 8% since 2010.

Revival of plant-based drinks is in full swing

Drinks are the most established category within dairy alternatives. Historically, this is mostly supported by sales of soya drinks. Since 2012 the plant-based drinks category has grown significantly. Increased attention for a plant-based lifestyle and the introduction of new and improved varieties based on nuts and oats is giving the category a boost. Currently plant-based drinks have a market share of 10% within the total market for milk.

Only a small part of the dairy market is plant-based

Retail value dairy and dairy alternatives, 2019



Source: Euromonitor, ING Research

Plant-based is working it's way down the dairy aisles

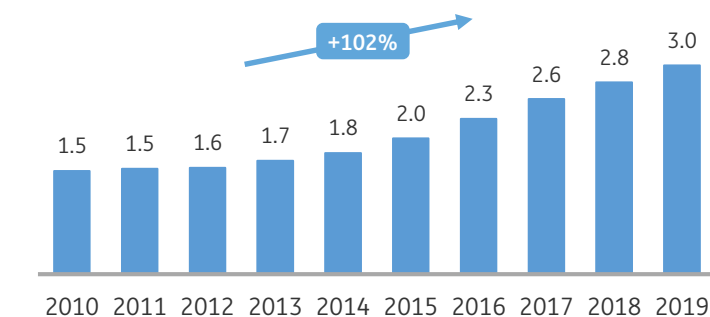
Alternatives for cheese, yoghurt and ice cream are less common than plant-based drinks but these adjacent categories are gaining traction as the market matures. The need for additional processing and the distinctive taste, texture and characteristics of products like yoghurt, cheese and ice cream make it more complex to create alternatives that come close to the 'real deal'. For example the way cheese can 'melt' and 'stretch' is very hard to mimic with plant-based ingredients.

"Plant-based 'cheese' is still a very small niche in supermarkets. But cheese analogues are commonly used for pizzas and snacks and are largely plant-based."

- **Dieter Kuijl, St. Paul**

Dairy alternatives are a three billion euro market in EU and UK

Value of retail sales dairy alternatives, in billion euro



Source: Euromonitor, ING Research

"We believe that it is possible to create a plant-based alternative for every dairy product."

- **Ben Black, Verinvest (lead investor in Oatly)**

"Making a plant-based milk is not that hard anymore. Cheese is a different story, it's very hard to create a good Gouda or specialty cheese without dairy."

- **Stacy Pyett, Wageningen University and Research**

Plant-based milk alternatives represent almost 10% of European milk market...

Milk alternatives market share, value, 2019



... and are especially popular in France and Spain

EU countries with highest market share



Source: Euromonitor, edited by ING Research



Chapter 2

Three important barriers towards 2025

Three barriers can slow down plant-based success	9
Prices: partial price parity expected by 2025	10
User experience: still a lot of work to be done	11
Availability: expect to see plant-based products pop up in more places	12
Meat and dairy alternatives market grows to 7.5 billion EUR in 2025	13

2.1 Three barriers can slow down plant-based success

Increased demand largely driven by flexitarian and younger consumers

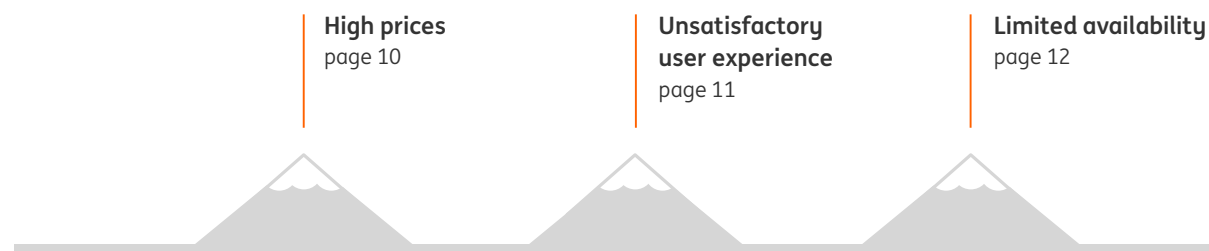
In the past decade plant-based alternatives have moved beyond the vegetarian/vegan niche and have managed to reach a larger group of so-called 'flexitarian' consumers. Younger consumers are at the forefront of this shift. They are generally more open to try new products and our Dutch consumer survey finds that younger consumers are most likely to see meat- and dairy alternatives as a genuine alternative. However, more will be needed to make plant-based products more 'inclusive' for the majority of European consumers.

Barriers have to be lowered to maintain growth

To compete with popular meat and dairy products and maintain the current growth rates, plant-based alternatives have to lower the barriers for consumers on three important aspects:

- High prices;
- Unsatisfactory user experience, which includes aspects like taste, ingredients and nutrition;
- Limited availability in foodretail and foodservice.

Three major barriers determine the growth of meat and dairy alternatives



Source: ING, based on company interviews and consumer research

“What we’re aiming for with Oatly is three things: parity in texture and taste, parity in price compared with fresh and organic milk and parity in distribution.”
- Eric Melloul, Verlinvest

“20 years ago the taste of plant-based alternatives didn’t matter that much as long as there was something for vegetarians. 10 years ago price wasn’t really a point of discussion. But today’s consumers are different and these aspects are getting more and more important.”
- Michiel Puttman, Avebe

2.2 Prices: partial price parity expected by 2025

Meat and dairy alternatives are more expensive

In general processed plant-based alternatives are more expensive than their animal-based counterparts. Soya drinks are the most commoditised product in the market which is reflected by a relatively small price gap in supermarkets in the four countries in our sample. But the price comparison also shows that this is not (yet) the case for oat milk, plant-based burgers and nuggets.

UK leads the way in Europe

The UK shows that much of the existing price gap can be closed in the next five years. In the UK prices are more aligned because the plant-based market is more mature, the retail environment is highly competitive and the product offering is more catered towards mainstream consumers. In comparison, the market situation in a country like Italy is very different with plant-based alternatives still mainly targeted at consumers who are willing to pay a premium as a matter of principle.

“The flavouring used for meat alternatives is relatively expensive. Newly developed plant-based proteins with less off-taste can help reduce ingredient cost.”

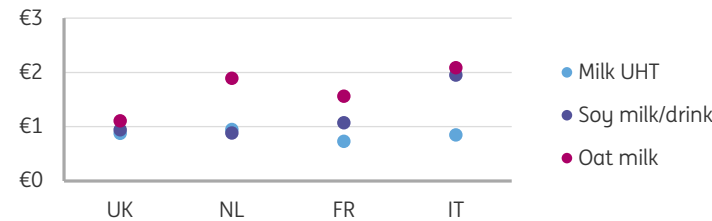
- Björn Witte, Blue Horizon

“The market for plant-based burgers is becoming saturated. To compete your product needs either an innovative proposition or a lower cost price.”

- Arie Boelens, Barentz

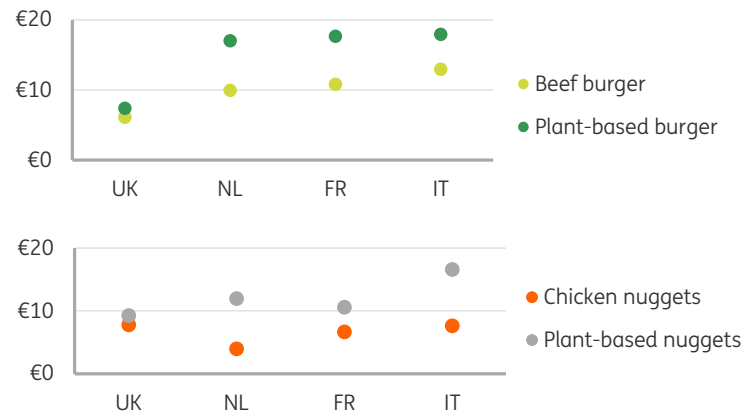
Soya drink prices are a bit above and oat drink prices still far above regular milk*

Retail price of 1 liter of milk and plant-based drinks in a selection of countries



Meat substitutes are more expensive than popular meat products**

Retail price of popular meat products and plant-based alternatives per kilogram in a selection of countries



*Based on private label and long shelf-life products

**Based on a combination of private label and branded products

Source: company websites Ah.nl, Carrefour.fr, Carrefour.it, Tesco.com

Prices expected to drop as many meat and dairy alternatives become more commoditised

General price levels for meat and dairy alternatives are expected to show a downward trend from now until 2025 because:

- Food producers, suppliers and distributors in the meat and dairy alternatives segment achieve more economies of scale, and consolidation will also play a role here.
- Consumers are becoming more familiar with alternatives leading to relatively lower marketing costs.
- Retailers are set to increase their range of private label products and will use their buying power to force down purchasing prices.

But price parity for all products is not realistic in 2025

Several reasons prevent prices from being on par for all products:

- Plant-based producers still need to earn back their investments in new products.
- In nascent categories like plant-based cheese demand is mainly coming from consumers who are willing to pay a premium.
- Retailers generally accept smaller margins on everyday items like milk, chicken breast or minced meat and make this up with higher margins on other products.
- The EU commission expects that lower red meat and milk consumption will put some pressure on domestic prices over the years to come.
- Policy measures can help close the price gap but policies that directly influence consumer prices of meat and dairy are unpopular. Direct subsidies, which are for example used to stimulate sales of electric cars, are difficult to carry out in food.

2.3 User experience: still a lot of work to be done

There are many opportunities to improve aspects of the ‘user experience’ like taste, nutritional value and ingredients.

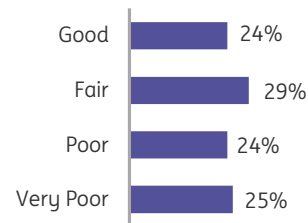
Taste, texture and mouthfeel; not there yet

Although plant-based alternatives have improved over time, poor taste remains an issue for consumers who are used to meat or dairy. This is a serious limitation, as taste is the most important aspect for consumers when buying meat or dairy. Data from the Netherlands indicate that younger consumers are on average more satisfied with the taste of meat and dairy alternatives than older consumers.

Many consumers rate the taste of meat and milk alternatives as poor

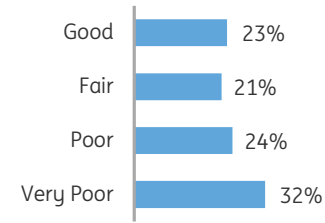
Share of respondents in the Netherlands to the question:

I find the taste of plant-based alternatives for meat...



Source: ING Question of the Day, 20-09-2020, 7.470 respondents

I find the taste of plant-based alternatives for milk (like soya, oat or almond drink)...



Source: ING Question of the Day, 21-09-2020, 12.451 respondents

More scrutiny on nutritional and health aspect

Nutritional value and health are other major aspects of the ‘user experience’ that can be improved. Some nutritional differences are inevitable due to the different nature of animal and plant-based protein sources. Sometimes these can be solved by fortifying products or combining multiple plant-based ingredients. For some consumers, health is a driver for avoiding meat. However, health-oriented consumers can also have doubts about alternatives which are often considered ‘ultra processed’, feature a long ingredient list and don’t perform particularly well on labels like Nutri-Score.

Food industry turns to R&D to improve user experience

The use of new production technologies, improved formulation and a wider range of ingredients are leading to better products. As ingredient companies and food producers continue to invest in R&D, new products and improved versions of existing products will keep hitting the shelves.

“Things are moving quickly and today’s product will have an improved version by next year.” - Olaf Noorman, Van Loon Group

“The front runners among consumers are increasingly concerned when it comes to the ingredients and the health aspects of meat alternatives.” - Maarten Vriesendorp, Vivera

“Innovation of our product and the science behind our product is still an heavy area of investment for us.” - Ben Black, Verlinvest

‘New’ protein sources can improve user experience

Soya, wheat and almond are mostly used...

In the years ahead the majority of meat alternatives will continue to be based on soya and wheat; in dairy alternatives soya and almond are popular. These protein sources are widely available and are well known among producers and consumers. But soya, wheat (gluten) and nuts are also major allergens and their functional characteristics pose limitations for producers. Other protein sources from crops and fungi are needed to make plant-based products appeal to more consumers.

... but pea and other proteins are gaining traction

Pea protein is getting more traction as an alternative for soya and protein from crops such as canola, potato or sugar beet can add extra functionality to plant-based foods. However supply is currently limited as the protein in these crops has long been a low-value by-product. Investment is needed to build facilities where protein can be extracted, to set-up supply chains and to breed varieties with improved protein content and quality. All these things are currently happening in the pea protein supply chain.

“From soya and almond, we’ll move to the full ingredient spectrum in 2025”

- Danone, company presentation

“Potato protein acts as a ‘binder’ in meat alternatives and thus has a different role than soya and wheat that are used as a ‘filler’

- Michiel Puttman, Avebe

2.4 Availability: expect to see plant-based products pop up in more places

The easiest barrier to tackle...

To accommodate changing consumer preferences many plant-based food producers have worked together with retailers over the last couple of years to increase the number of plant-based products on offer. This trend is set to continue from now until 2025 because the production capacity and product range are still growing.

...as long as growth of production capacity can keep up

Supply chains for plant-based alternatives are still in an early stage when compared with meat and dairy, as production capacity had to be built from the ground up. This process is gradual and it generally takes millions of euros of investments, and it can easily take two years to build a factory that is able to produce at scale. Several companies including Quorn, Vion, Vivera and Beyond Meat have announced that they are developing new production facilities, and supply from these facilities will hit the market in the near future.

Existing distribution networks can be leveraged

Additional supply also results in the need for more distribution, which is generally this is outsourced to third parties. In some cases companies have struck up partnerships to make use of existing distribution channels. Examples include Beyond Meat which works together with meat companies PHW and Zandbergen, and dairy company Valio, which has partnered up with FrieslandCampina to run a pilot to market its plant-based drinks.

2025: alternatives available at more stores...

As it stands plant-based alternatives are still far from ubiquitous in European supermarkets and are especially hard to find outside the biggest retailers and speciality stores in Europe's urban areas. Part of the additional production capacity will be used to bring successful products to new countries, retailers and food service companies.

"In Sweden we sell our full product range. In other countries we sell our core products and build our range from there."

- **Ben Black, Verinvest**

"There is a lot of demand for meat alternatives, and the number of companies able to offer the right products at the right price is still relatively small."

- **Olaf Noorman, Van Loon Group**

...and at more points within stores

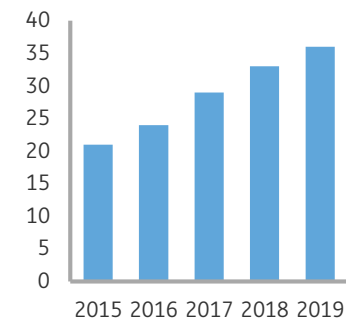
After the successful launch of one or several products the attention in existing markets shifts to creating more points of contact across stores. Two general trends can be distinguished:

- The move from the ambient and frozen section to the chilled and convenience aisle, e.g. a fresh soya drink variety in addition to the existing ambient soya drink.
- The introduction of products under the same brand in adjacent categories, e.g. a range of plant-based yoghurts in addition to existing drinks.

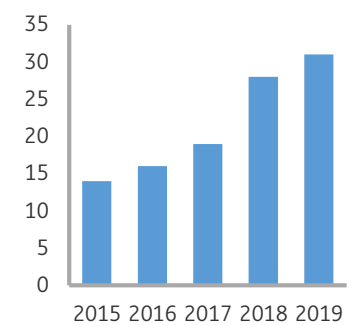
French stores increase the number of dairy alternatives they sell

Average number of items (SKU's) in supermarkets and hypermarkets

Plant-based drinks



Plant-based yoghurt



Source: IRI France

2.5 Meat and dairy alternatives market grows to 7.5 billion in 2025

Continued growth expected

Companies that produce meat and dairy alternatives are indicating that they'll keep following a clear push strategy over the next couple of years. This will lead to higher availability across European countries. For popular products such as burgers and drinks, the focus will shift towards more competitive pricing due to increased competition for shelf space. In adjacent categories such as cheese or yoghurt many products will still be sold at a premium. User experience will improve as developments in the supply chain lead to a broader variety of protein sources and the reformulation of recipes will help to ditch some 'baddies' from the ingredient list.

Alternatives grow to 7.5 billion EUR in 2025...

Ongoing efforts to bring down the barriers are expected to have a positive effect on future retail sales, in which case the market for meat and dairy alternatives can continue to grow at an annual growth rate of around 10%. In that scenario sales of meat alternatives will be around 2.5 billion EUR and of dairy alternatives around 5 billion EUR, adding up to 7.5 billion EUR in 2025.

...giving market share a boost

As sales of meat substitutes and dairy alternatives increase so does market share. Based on our forecast meat substitutes could have a share of 1.3% in the total meat market in 2025 and dairy alternatives could grow to 4.1%.

Factors that can lead to a different outcome

The forecast for plant-based alternatives does not take into account some events that are unlikely to happen but can have a big impact on the meat and dairy market.

Game changers that can speed up the plant-based trend

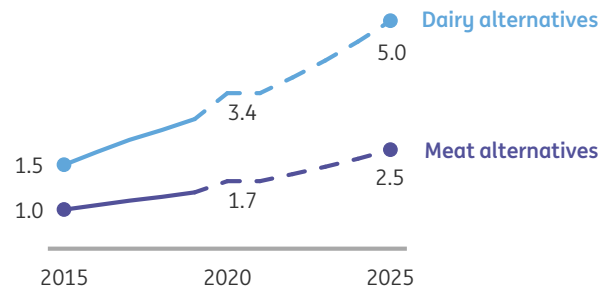
- The introduction of new European policies meant to discourage the consumption of meat and/or dairy.
- (Fermented) animal-free dairy proteins become widely available and provide companies with a superior plant-based protein source.

Show stoppers that can slow down the plant-based trend

- Meat and dairy alternatives lose their healthy and sustainable 'aura' which then creates a backlash in consumer demand.
- Deteriorating international trade conditions can put EU exports of meat and dairy under pressure. Additional supply of meat and dairy in domestic markets could lead to lower consumer prices making it harder for alternatives to compete.
- Cell-based meat is approved for sale in Europe and becomes widely available reducing the need for plant-based alternatives.

Sales of dairy and meat alternatives expected to reach 5 and 2.5 billion in 2025

Value of retail sales in EU and UK in billions of EUR



Assumptions about the market in 2025

- There is considerable progress on lowering all three barriers, but a breakthrough that changes the entire competitive landscape is not on the cards.
- The growth rate of sales of meat alternatives sales is expected to be in the same range as of dairy alternatives, just like the last decade.
- Retail prices for meat, dairy and alternatives follow the historic trend.
- In 2020 COVID-19 gives a boost to retail sales of meat and dairy alternatives. We expect growth to flatten out in 2021 due to out-of-home consumption returning to 'normal' and shoppers becoming more budget-minded due to rising unemployment. From 2022 onwards growth may pick up again.

Source: Euromonitor, 2020-2025 forecast ING Research

Chapter 3



The impact on the European food industry

Reshuffling of the cards in the food industry	15
Meat and dairy companies: not much to win in Europe, but a lot to lose	16
FMCGs: Double whammy, a high growth potential and a positive social impact	17
Start-ups: survival of the fittest	18

3.1 Reshuffling of the cards in food industry

The growth of plant-based alternatives has consequences across the food value chain, with the need for change bigger in some parts than in others.

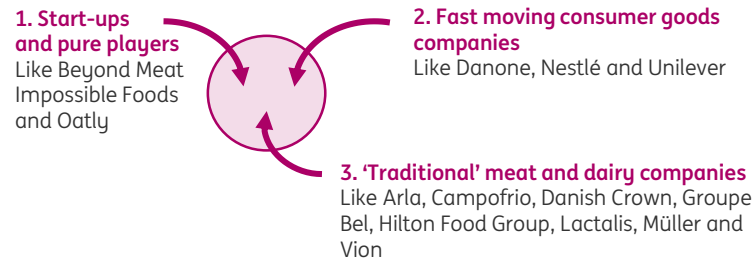
Plant-based attracts interest from three different directions

A feature that makes the market for plant-based alternatives stand out is the fact that three types of companies in the food industry all want a part of the plant-based pie.

1. Start-ups still see a lot of unmet demand and are able to take advantage of the large interest among investors.
2. FMCG companies look at the high growth, the natural fit with their sustainability strategy and the opportunity to move their product range more towards the 'centre of the plate'.
3. Traditional meat and dairy companies see their market share eroding in some categories. However developing their own plant-based products also offers an opportunity to differentiate and be ready to export these products when the regional trend goes global.

Competition over 'plant-based consumer' is heating up...

Three types of companies in the food industry are entering the market



Does any of the three sides have a winning hand?

Over the last couple of years there have been ample opportunities for all three 'sides' to test out new products while demand from retailers rose and shelf space increased. This situation evolves and products and brands that underperform are at risk of losing their spot. In the coming years, the battle for market share will be fiercest in more mature markets like the UK, the Nordics and the Benelux. Entry barriers become higher and opportunities for start-ups shift to parts of the market that are less developed like cheese.

Mixed impact on suppliers

The plant-based trend can be both an opportunity and a threat for suppliers. Many suppliers of ingredients and machinery are able to serve animal and plant-based producers. Others in the value chain, like farmers, are generally more dependent either the animal or the plant-based value chain. It's relatively easy for arable farmers to phase in protein crops, but livestock farmers will find it more difficult to change their business model. In any case the development of meat and dairy alternatives increasingly plays a role in their investment decisions.

Retail and foodservice grab plant-based marketing opportunity

A growing number of retailers and food service chains embrace plant-based products in order to differentiate themselves. Besides that innovation in their product range is a necessity to keep up with consumer demand. Most retailers in Northwestern Europe have been really active in contracting plant-based suppliers. A similar trend is happening in food service where chains like McDonalds, Burger King and KFC are all rolling out plant-based options.

... and that has consequences for others in the food supply chain

Quotes from the expert interviews underline the opportunities and threats in the supply chain



3.2 Meat and dairy companies: not much to win in Europe, but a lot to lose

Traditional meat and dairy companies are faced with a dilemma

While start-ups and FMCGs were starting to enter ‘their’ territory most traditional meat and dairy companies followed a wait-and-see approach. This is understandable, since they consider their product to be better in many aspects. On top of that, as many meat and dairy companies make use of a semi or fully integrated value chain and have close ties with livestock farmers, entering the plant-based market is a sensitive topic.

Adopting a different mindset

As many meat and dairy companies in Europe operate in a low-growth environment they can’t afford to lose consumers. That young consumers in particular are losing some of their interest in animal products is a clear call to action. For some years, it has no longer been a taboo for meat and dairy companies to openly communicate on their plant-based ambitions. In general the sense of urgency is greater in the beef and pork segment than in poultry. It’s also greater among companies in Northwestern Europe than among their peers in Southern and Eastern Europe.

“Traditional meat and dairy companies that introduce plant-based products have a big advantage over start-ups. They already have direct access to a lot of supermarket shelves.”

- Michiel Puttman, Avebe

Companies can build on several strengths

Being a late mover doesn’t necessarily need to be an obstacle for meat and dairy companies that enter the plant-based market as they can build on several strengths:

- They know what consumers like in meat and dairy products and at which price point.
- They can benefit from existing contacts and contracts with retailers and use existing supply chains

Plant-based points at importance of sustainability and exports

The plant-based trend puts more emphasis on two topics that were already gaining importance at European meat and dairy companies: sustainability and exports. NGOs and plant-based competitors are increasingly challenging meat and dairy companies on the sustainability of their products. Meat and dairy companies want to show that they take this criticism seriously, and so lowering the environmental footprint from field to fork has become a major area of investment. At the same time exports are gaining importance because volume growth in many European markets has stalled. European meat and dairy companies are increasingly shifting some of their resources to markets in Africa, Asia and the Middle East to be present in the key growth areas for animal protein.

Comparing the meat and dairy industry with the car industry

Plant-based alternatives and electric cars both have the capability to disrupt traditional industries. However, in our view the level of change caused by plant-based in the food industry is still less than in the car industry.

Electric cars have more disruptive force than plant-based alternatives

User experience

Meat and dairy alternatives	<ul style="list-style-type: none"> • Most consumers prefer meat and dairy over a plant-based alternative
Electric cars	<ul style="list-style-type: none"> • Electric driving experience outperforms petrol cars • Problem of smaller driving range being solved

Availability

Meat and dairy alternatives	<ul style="list-style-type: none"> • Plant-based food producers need to build supply chain and factories from the ground up • Even if plant-based alternatives were to maintain current growth it will be beyond 2050 before sales surpass meat and dairy
Electric cars	<ul style="list-style-type: none"> • Car manufacturers can make use of existing production facilities. • By around 2035 all new cars sold in Europe will be electric.

Price

Meat and dairy alternatives	<ul style="list-style-type: none"> • Price parity in some countries and categories • Majority of EU funds goes to animal value chain
Electric cars	<ul style="list-style-type: none"> • Electric cars expected to break even with petrol cars within a couple of years. • Policy and subsidies aimed at promoting electric cars

3.3 Double whammy, a high growth potential and a positive social impact

Size matters

For decades FMCG companies have invested in building relationships with retailers that helped them gain access to consumers. Smaller competitors lack such access. This makes it far more easier for an FMCG to introduce new products, like a plant based burger, compared to a new, unknown name with little brand equity. Having such a size, also makes the FMCG's aware of their civil duty, either through the pressure of the public opinion or a moral conviction. Danone, Nestlé and Unilever all have sustainability integrated in the core of their strategies and plant-based alternatives provide a natural fit.

General sense of urgency, but different approach

While FMCGs can make a large impact on the development of plant based food in relative terms their plant-based protein business is still very small. We note that the amount of resources allocated to the development of plant based food varies per company.

Danone

In 2017 Danone acquired Whitewave which, at that time, generated 3.7 billion EUR in sales per annum mostly coming from organic dairy and plant-based dairy alternatives. Currently the plant-based category accounts for 1.9 billion EUR in sales or 7.5% of Danone's total sales. Danone mainly focusses on plant based drinks and yogurts, which is one of the three main segments within the Essential Dairy and Plant-based (EDP) business unit. But also aims to strengthen its position in ice creams, desserts, coffee drinks and nutritional powdered products. In Europe the products are sold under the Alpro and Provamel brands, but legacy brands like Oikos and Activia now also offer plant-based alternatives.

Nestlé

Next to the acquisition of several plant-based brands, like Tivall (rebranded to Garden Gourmet) in Europe, Nestlé also allocates approximately 10% of its R&D employees to develop products across the companies categories. In 2019 the company generated around 220 million EUR sales in plant based foods, still less than 1% of total global sales. However the company expects this to grow to USD 1 billion by 2029.

Unilever

In 2018 Unilever acquired "The Vegetarian Butcher" for an undisclosed amount. ING estimated at the time that the company was worth around 30 million EUR. Currently The Vegetarian Butcher accounts for less than 5% of total revenue. However, ice cream is a different story. This category generated 6.8 billion EUR in 2019 and accounts for 13% of Unilever's total revenue. Within this category the company expects plant based ice cream to grow to between 1.3 and 1.7 billion EUR.

Plant-based moves have had different impact on finances

So far the impact on finances has been limited for the Nestlé and Unilever, but substantial for Danone. When Danone acquired Whitewave, the latter was valued at 12.5 billion USD. To finance the acquisition Danone used the bond market. Initially the company issued a 6.2 billion euro bond and a 5.5 billion euro bond issue that was carried out as a private placement. In other cases the move into the plant based category, so far, has been funded with cash on the balance sheet and often via regular Capex and R&D. Typically FMCG companies spend 2% of total sales on R&D and 6% of total sales on Capex.

Nestlé offers largest variety in plant-based meat and dairy alternatives

Overview of the plant-based product range of selected FMCGs

	FMCG companies		
	Nestlé	Unilever	Danone
Plant-based alternatives for beef			
Burger	●	●	
Mince	●	●	
Sausage	●	●	
Other	●		
Plant-based alternatives for chicken			
Nuggets	●	●	
Burger		●	
Wings			
Other	●		
Plant-based alternatives for pork			
Bacon	●		
Sausage	●		
Other	●	●	
Plant-based alternatives for dairy			
Milk	●		●
Yoghurt			●
Ice Cream	●	●	●
Cheese	●		

Source: Company information

3.4 Start-ups: survival of the fittest

Start-ups with purpose driven roots give strong competition

The fiercest competition in the plant-based category seems to be from pure-play start-ups which have sustainability not only at their core, but in their foundation and raison d'être. With their 1.0 versions, they managed to disrupt the market. In our view Beyond meat and Impossible are the most successful pure-players in the faux meat segment and Oatly in dairy. Also they specifically target the traditional meat or traditional milk consumer instead of the vegan/vegetarian community which increased the sales potential on the long term. The common denominator of the plant based start-ups is the strong focus on building a community around the brand, often via social media. Another strategy to gain brand awareness and increase sales is via partnerships with established brands. For example: Beyond Meat has a partnership with McDonalds, Subway and Dunkin Donuts. Impossible Foods is working together with Burger King in North America, Disney and Starbucks.

Rising tides benefit all boats?

While the first movers are quickly grabbing market share, we do believe their success will lead to a sprawl of start-ups who want to benefit too. Although the stakes to enter the market are getting higher, this effect will be beneficial for the further development and acceptance of plant based alternatives and further innovation. In dairy we believe the market is further developed and we believe plant based dairy products are already more accepted and common.

Financial implications: aiming for the stars

Since Beyond Meat's start in 2009, the company was able to grow and further develop its product through several funding rounds. Eventually, in 2019 the company went public through an IPO in which the company raised another 200 million EUR. Analysts have forecasted Beyond Meats' revenue to grow to 1.3 billion EUR by 2023 which points to an annual growth rate of 38%. Direct peer Impossible Foods follows a similar path and also finances much of the growth through external funding. Based on the latest funding round the company has an estimated enterprise value (EV) of 3.5 billion EUR. To compare: Beyond Meat's currently has an enterprise value of around 9.7 billion EUR and Oatly is currently valued at 2 billion EUR. We noticed that these companies do not only attract 'professional' investors but also attract interest among celebrities. In our view this not only enhances the conversation around plant based alternatives and sustainability it also broadens the funding possibilities of these companies.

Several (former) start-ups have passed the 100 million EUR mark

Overview of companies dedicated to selling plant-based meat and dairy alternatives in Europe, based on revenue

	Independent start-ups and pure players	Former start-ups that have become part of FMCG
€100+ million		
€50-100 million		
€10-50 million		

Source: Company information

*Impossible Foods awaiting approval by the European Food Safety Authority,

**Miyoko's exploring the possibility to expand to Europe

With thanks to

Harm Laros	2 Sisters Storteboom
Michiel Puttman	Avebe
Arie Boelens	Barentz
Björn Witte	Blue Horizon
Henk Hoogenkamp	Future Foods
Gesineke Borghuis	Royal Agrifirm Group
Gerrit Schilstra	Royal Agrifirm Group
Dieter Kuijl	St. Paul
Olaf Noorman	Van Loon Group
Ben Black	Verinvest
Eric Melloul	Verinvest
Maarten Vriesendorp	Vivera Food Group
Stacy Pyett	Wageningen University & Research

Would you like to know more?

Authors

Thijs Geijer
Food Sector Economist
ING Economics Department
+31 6 13 37 97 43
Thijs.Geijer@ing.com

Alyssa Gammoudy
Consumer Goods Sector Strategist
ING Credit Research
+31 6 20 01 00 50
Alyssa.Ouled.Gammoudy@ing.com

Editors

Maurice van Sante ING Economics Department
Lex Hoekstra ING Economics Department

And special thanks to

Kiran Sanchit ING Head of Food & Agri EMEA
Marco Gulpers ING Corporate Finance, Managing Director Food & Agri
Ceel Elemans ING Sector Banker Food & Agri
Alison Murphy ING Vice President Food & Agri EMEA

Or visit [ING THINK](#)

Disclaimer

This publication has been prepared by the 'Economic and Financial Analysis Division' of ING Bank N.V. ('ING') and is only intended as information for its customers. This publication is not an investment recommendation or an offer or invitation to buy or sell any financial instrument. This publication is for information purposes only and should not be considered as advice in any form whatsoever. ING obtains its information from reputable sources and has taken all possible care to ensure that at the time of publication the information on which it has based its view in this publication is not misleading in all respects. ING makes no guarantee that the information it uses is accurate or complete. Neither ING nor any of its directors or employees assumes any liability for any direct or indirect loss or damage resulting from the use of (the contents of) this publication as well as for printing and typographical errors in this publication. The information contained in this publication reflects the personal opinion of the Analyst/Analysts and no part of the Analyst's/Analysts' remuneration is, or will be directly or indirectly related to the inclusion of any specific recommendations or opinions in this report.

The analysts who contributed to this publication comply with all the requirements prescribed by the national supervisory bodies that monitor the performance of their profession. The information in this publication is subject to change without notice. Neither ING nor any of its directors or employees assumes any liability for any direct or indirect loss or damage resulting from the use of (the contents of) this publication as well as for printing and typographical errors in this publication. Copyright and rights to the protection of databases apply to this publication. No part of this publication may be reproduced, distributed or published by any person for whatsoever reason without prior written permission from the ING. All rights are reserved. ING Bank N.V. has its registered office in Amsterdam, and principal place of business at Bijlmerplein 888, 1102 MG Amsterdam, the Netherlands, and is registered in the trade register of the Chamber of Commerce under number 33031431. In the Netherlands, ING Bank N.V. is registered with and supervised by De Nederlandsche Bank and the Netherlands Authority for the Financial Markets (AFM). For more information about ING policy, see <https://research.ing.com/>. The report was concluded on 16-10-2020.