

Smart Proteins - Research Developments, Consumer Insights and Market Trends on Plant Protein Foods in Europe

Theresa Boeck
University College Cork



What is the Smart Protein Project?

One of the most **innovative** plant-based projects

A collaboration of **33 partners** from more than **20 countries**

4 years in duration (2020-2024)

An **EU-funded research project** (Horizon 2020) with a €9+ million budget

Objective: *innovative, cost-effective, and resource-efficient EU-produced plant proteins from:*



Chickpeas, lentils, quinoa, & fava beans

Innovative protein products from plants



Yeast and fungi

New protein ingredients



Byproducts from pasta, bread, & beer

A circular economy will be created by upcycling side streams

What is the Smart Protein Project?



- A Ireland
- B Portugal
- C Spain
- D Belgium
- E Netherlands
- F Denmark
- G Germany
- H Austria
- I Switzerland
- J Italy
- K Israel
- L New Zealand
- M Thailand
- N USA

9 EU Member States

Ireland	Portugal	Spain	Belgium	Netherlands	Denmark	Germany	Austria	Italy

2 Associated Countries

Israel	Switzerland

3 International Partners

Thailand	New Zealand	USA

Stakeholder Advisory Board

Agricultural networks



Investment and business development



Research, advisory body or NGO

Farm Transformation Institute



Food and Beverage Production



Retailer and consumer interest and insight



Smart Protein Strategy

WP4 – Food nutrition and health



Objectives: Optimisation of the nutritional and biological profile of the Smart Protein food ingredients/foods/beverages plant based products prototyped via human intervention studies.
Key players: Food and beverage industries

WP3 – Food processing



Objectives: Protein-protein interaction, protein functionality, development of food ingredients/foods/beverages plant based products. Formulate protein combinations for partial or full substitution of protein sources traditionally utilised. Industrial validation and demonstration of developed food and beverage prototypes.
Key players: Food and beverage industries

WP2 – Plant protein processing and side stream up-cycling



Objectives: Protein extraction validation at the industrial environment, up-cycling side-stream products generated from Smart Protein partners, mycelium, mushroom protein production.
Key players: Food and beverage ingredients companies

WP1 – Protein crop, soil and water management



Objectives: Water management, soil fertility protection, protein crops validation and production strengthening.
Key players: Farmers, farmers support associations, plant breeders

WP5 – Exploitation & business development



Objectives: Assessment of the commercial feasibility and safety of protein channels through its live interaction among the WP1-WP4 – Business case-development
Key players: Farmers/Industries/Food retailers, consumers/support, associations

WP6 – Consumer studies



Objectives: Development and implementation of plant-based food and beverage prototypes to enhance consumer's acceptance, consumer readiness, network and promoting activities.
Key players: Food retailers, consumers/support associations

WP7 – Dissemination and communication



Objectives: Disseminate, exploit and communicate the results of the Smart Protein project within and outside the consortium to the public and relevant professional sectors such as food industry, manufacturing and production, food and regulatory authorities.
Key players: Farmers/Industries/Food retailers, consumers/support, associations, policy makers

WP8 – Sustainability Assessment



Objectives: Environmental impact profiles of protein food covering the whole protein food supply chain (from cradle to grave).
Key players: Farmers/Industries/Food retailers, consumers/support, associations, policy makers

WP9 – Project management and coordination



Objectives: Overall management of the project, establishment of an effective communication infrastructure and foster the integrative process within the consortium, ensure consortium's performance.

Plant-based foods in Europe: How big is the market?



Plant-based products grow strongly

NESTLÉ

Sales in vegetarian and plant-based food grew at a double-digit rate in 2021, reaching around CHF 800 million (€780 million).



Introduction

“Finally, we get to see the tremendous growth of plant-based food in Europe over the last few periods, shown in concrete numbers.”



Sales values across 11 countries



€ € €



Total for food retail sector, including discount stores



Total for discount stores

Six food categories



Plant-based meat



Plant-based cheese



Plant-based milk



Plant-based fish



Plant-based yoghurt



Plant-based ice cream

Plant-based sector overview

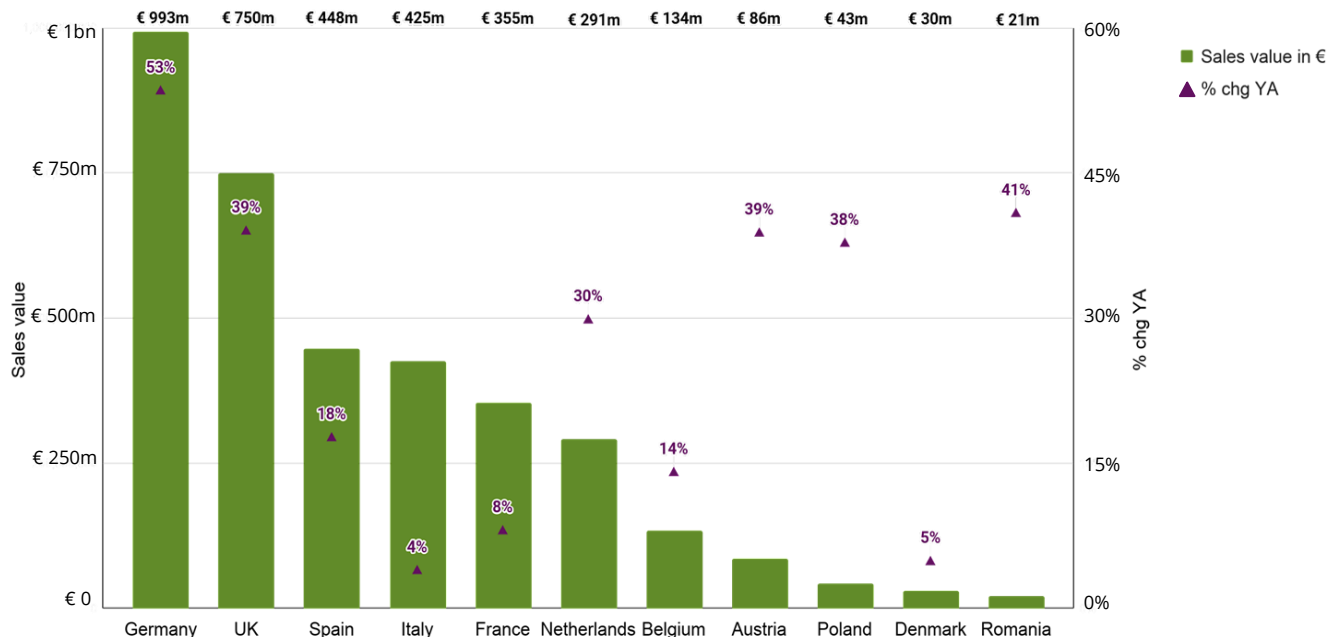
“The European plant-based-food sector experienced tremendous growth over the last two periods.”



Germany had the highest PB sales, followed by the UK. All countries showed huge growth.



Total European plant-based-food sector, by country, for MAT 2020*



*Total market incl. discounters, AU (Plant-based (PB) meat, milk, yoghurt)+BE (PB meat, milk, yoghurt)+DK (PB meat, milk, yoghurt, cheese, ice cream)+FR (PB meat, milk, yoghurt)+GER (PB meat, milk, yoghurt, cheese, ice cream, fish)+IT (PB meat, milk, yoghurt, cheese, ice cream)+NL (PB meat, milk, yoghurt, cheese)+PL (PB milk)+RO (PB meat, milk)+SP (PB meat, milk, yoghurt)+UK (PB meat, milk, yoghurt, cheese, bakery), sales value in € and growth rates, MAT Sep/Oct (between CW39 and CW42 depending on country) 2020

Tremendous growth is visible in Europe - the sector grew by 49% over the last two periods



Total European plant-based-food sector*

€ 2.4bn

€ 2.8bn

€ 3.6bn

+49%

+28%

+16%

%
Discount Stores:
average
11% share

MAT – Moving Annual Total,
September-October

MAT 2018

MAT 2019

MAT 2020

*Total market incl. discounters, AU (Plant-based (PB) meat, milk, yoghurt)+BE (PB meat, milk, yoghurt)+DK (PB meat, milk, yoghurt, cheese, ice cream)+FR (PB meat, milk, yoghurt)+GER (PB meat, milk, yoghurt, cheese, ice cream, fish)+IT (PB meat, milk, yoghurt, cheese, ice cream)+NL (PB meat, milk, yoghurt, cheese)+PL (PB milk)+RO (PB meat, milk)+SP (PB meat, milk, yoghurt)+UK (PB meat, milk, yoghurt, cheese, bakery), sales value in €, MAT Sep/Oct (between CW39 and CW42 depending on country) 2018 vs. 2019 vs. 2020

Plant-based meat

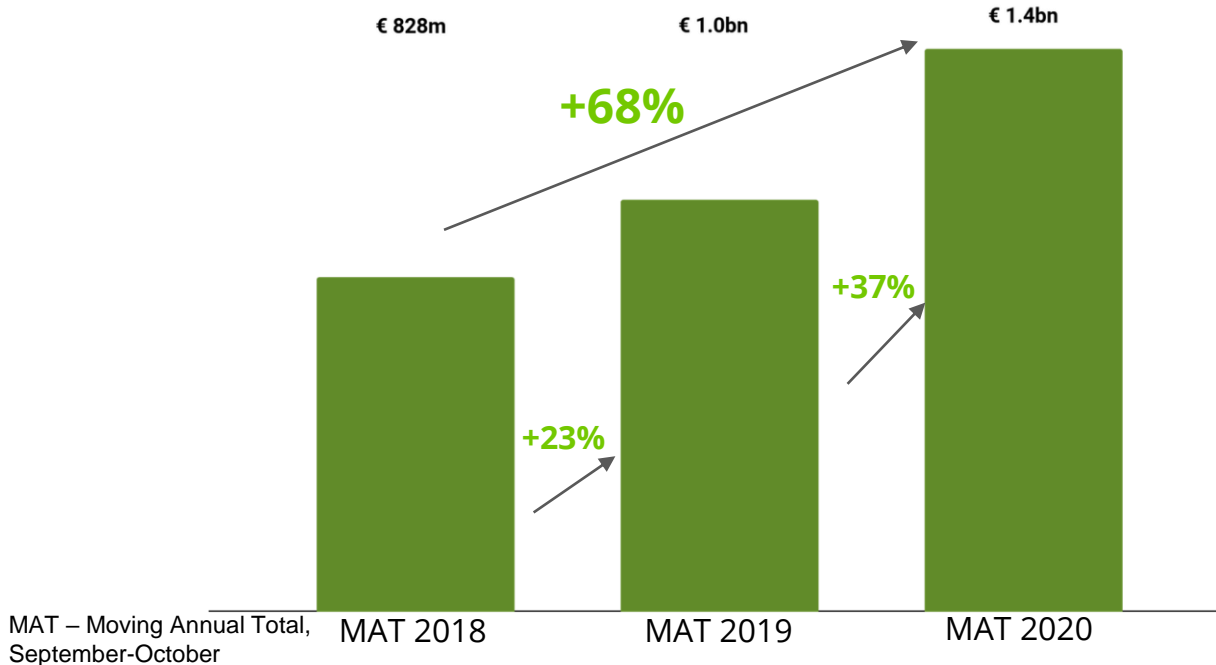
“Growth of 76% over the most recent period in Germany.”



The European PB meat sector showed strong double-digit growth, especially in last period.



European vegan- and vegetarian-meat sector*



MAT – Moving Annual Total,
September-October

*Total market incl. discounters, AU+BE+DK+FR+GER+IT+NL+RO+SP+UK, sales value in € and growth rates, plant-based (vegan and vegetarian) meat, MAT Sep/Oct (between CW39 and CW42 depending on country) 2018 vs 2019 vs 2020; Spain only MAT Sep/Oct 2019 and 2020.

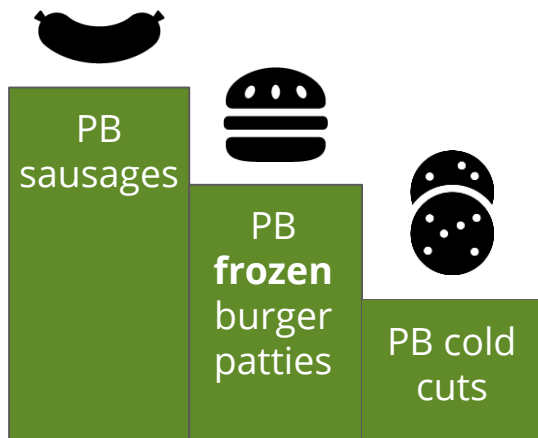
PB sausages, burger patties, and cold cuts lead the sector in the UK and Germany



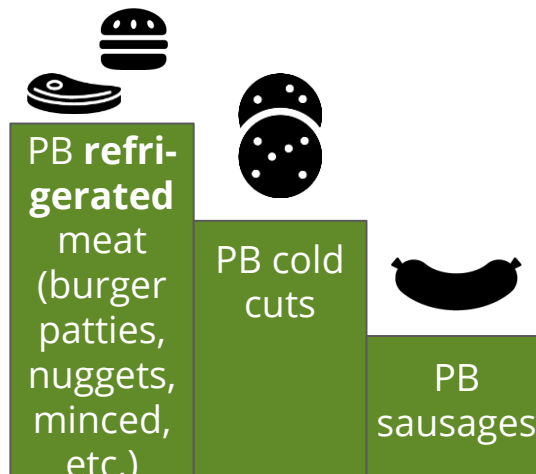
Top three vegan- and vegetarian-meat market segments in countries with the highest sales value*



UK



Germany



*Total market incl discounter, GER+UK, sales value in € and growth rates, plant-based (vegan and vegetarian) meat, MAT Sep/Oct (between CW39 and CW42 depending on country) 2020.

Source: Nielsen MarketTrack.

Plant-based prepared meats are on the rise.



Plant-based-meat market segments with highest sales value and growth rates*



Already huge sales:



Plant-based refrigerated meat



Plant-based burger patties



Plant-based sausages



Highest growth rates:



Plant-based frozen meat



Plant-based burger patties



Plant-based prepared meats
(e.g. nuggets, stir-fry, mince,
etc.)



Plant-based sausages

*Total market incl discounter, AU+BE+DK+FR+GER+IT+NL+RO+SP+UK, sales value in € and growth rates, plant-based (vegan and vegetarian) meat, MAT Sep/Oct (between CW39 and CW42 depending on country) 2018 vs 2019 vs 2020.

Plant-based milk

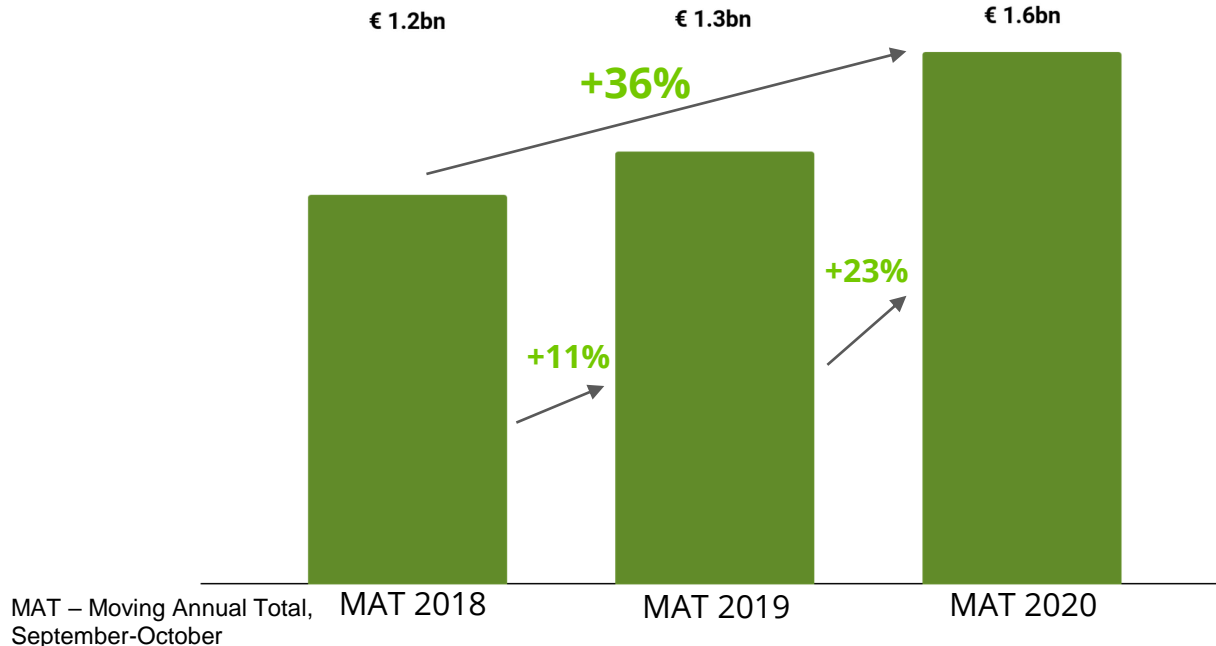
“Oat milk is on fire, with huge sales values and growth rates.”



The PB-milk sector recorded huge sales value and continues to show double-digit growth.



European plant-based-milk sector*



*Total market incl. discounters, AU+BE+DK+FR+GER+IT+NL+PL+RO+SP+UK, sales value in €, plant-based milk (plain and flavoured), MAT Sep/Oct (between CW39 and CW42 depending on country) 2018 vs 2019 vs 2020.

Source: Nielsen MarketTrack.

Oat, almond, and soya are the most successful segments in Spain and Germany.



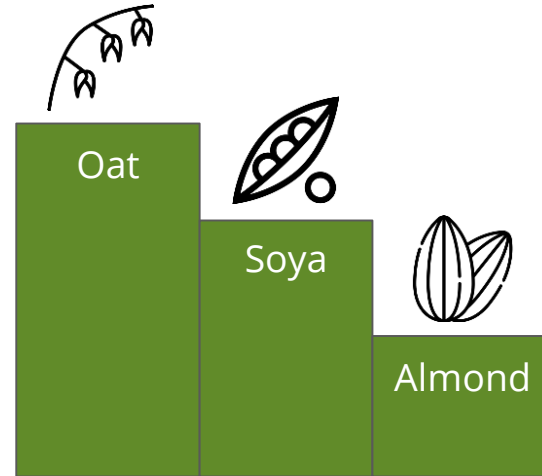
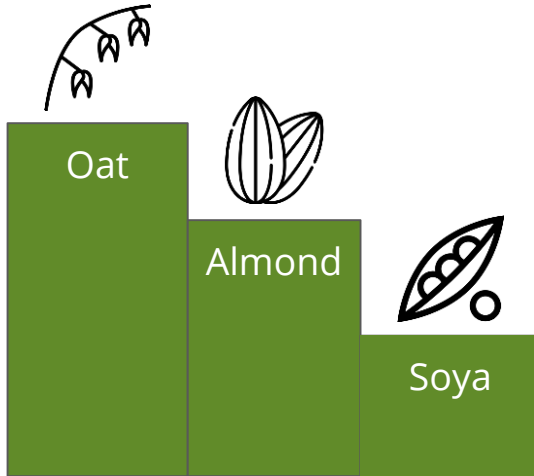
Top three plant-based-milk segments in countries with the highest sales value*



Germany



Spain



*Total market incl. discounters, GER+SP, sales value in €, plant-based milk (plain and flavoured), MAT Sep/Oct (between CW39 and CW42 depending on country) 2020.

Source: Nielsen MarketTrack.


Oat is on fire, leading in sales values and growth rates. There is increasing product variety.



Plant-based-milk segments with highest sales values and growth rates*



Already huge sales:




 Oat

 Soya
 Almond



Highest growth rates:

 Oat **+100%** 

 Spelt
 Legumes (e.g. pea, lupin)
 Almond

*Total market incl. discounters, AU+BE+DK+FR+GER+IT+NL+PL+RO+SP+UK, sales value in € and growth rates, plant-based milk (plain and flavoured), MAT Sep/Oct (between CW39 and CW42 depending on country) 2018 vs 2019 vs 2020.

Source: Nielsen MarketTrack.

Plant-based cheese

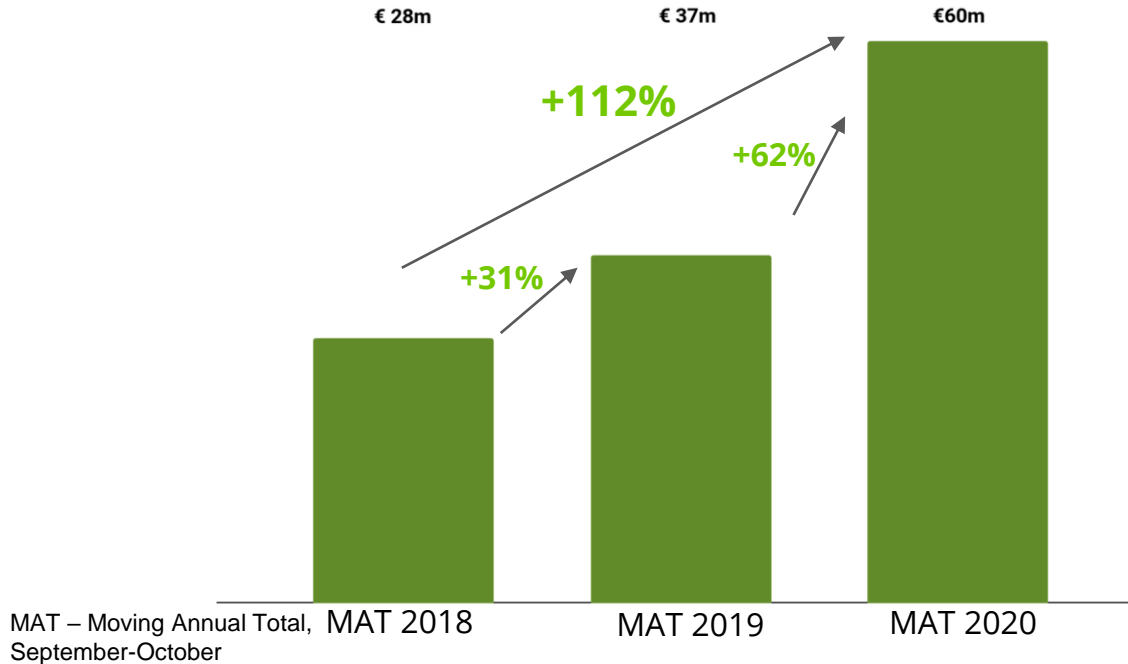
“The plant-based-cheese sector is still in its infancy, with huge potential for more varieties in all countries.”



Growth rate doubled in the most recent period, increasing from 31% to 62%.



European plant-based-cheese sector*



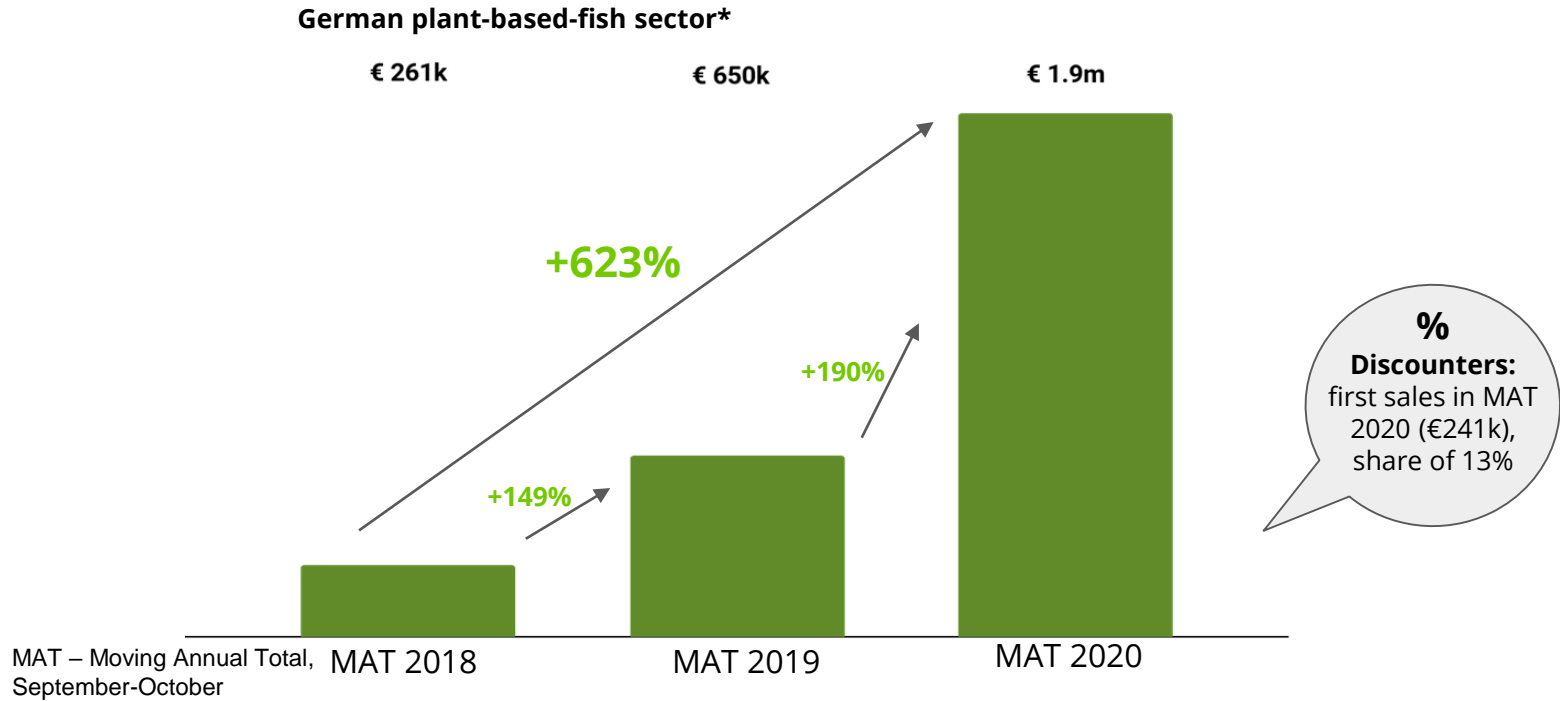
*Total market incl. Discounters, DK+GER+IT+NL+UK, sales value in €, MAT Sep/Oct (between CW39 and CW42 depending on country) 2018 vs 2019 vs 2020

Plant-based fish

“Plant-based fish shows the highest growth rate among all categories in Germany, with 623% over the past two periods.”



PB fish showed huge growth and even had its first sales in discounters in the latest period.



*Total market incl. discounters, Germany, sales value in €, plant-based fish, MAT CW39 2018 vs 2019 vs 2020

There is room for improvement in terms of plant-based-fish products.



Flavour



Price

ω -3
Iodine
B12 D₃








Nutritional value

Recommendations

“Plant-based meat, plant-based fish, and plant-based cheese show the greatest potential.”



The way forward:

		Recommendations
	#1	Take the opportunity - you can expect huge sales!
	#2	Consider developing even more plant-based options in the plant-based-meat and plant-based-milk categories.
	#3	Focus on the development of whole cuts of meat , as well as on convenient , easy-to-prepare, and long-lasting products.
	#4	Think about new ingredients like spelt, pea, beans or lupins in the plant-based-milk sector.
	#5	Try to launch convincing plant-based-cheese varieties in many more countries.
	#6	Plant-based fish is one of the most lucrative plant-based-food categories of the future - include plant-based fish in your product range!

Stay informed

For more information on the Smart Protein Project and to subscribe to the project newsletter, please visit:

www.smartproteinproject.eu



<https://www.linkedin.com/company/smart-protein-project>



<https://www.youtube.com/channel/UCN5w6Tb19DdfKCX5xhdHFgQ>

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