

THE PROTEIN CLUB

Enabling innovative value chains for
fermentation-based proteins



Karen Verstraete, ILVO



Microbial protein value chain

RAW MATERIALS

Industrial gasses



Pre-treatment biomass



Micro-organisms



PRODUCTION

Fermentation



Protein filtration and purification



END PRODUCTS

Food, feed and fine chemicals

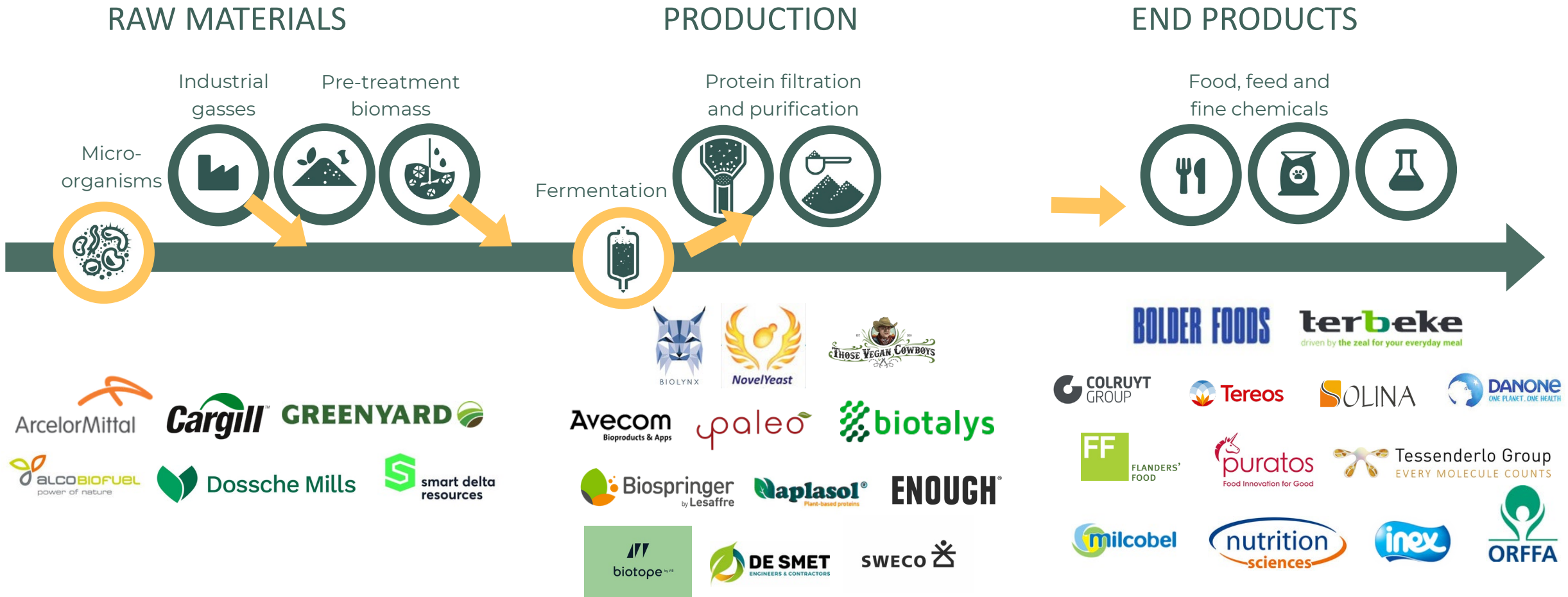


Microbial protein

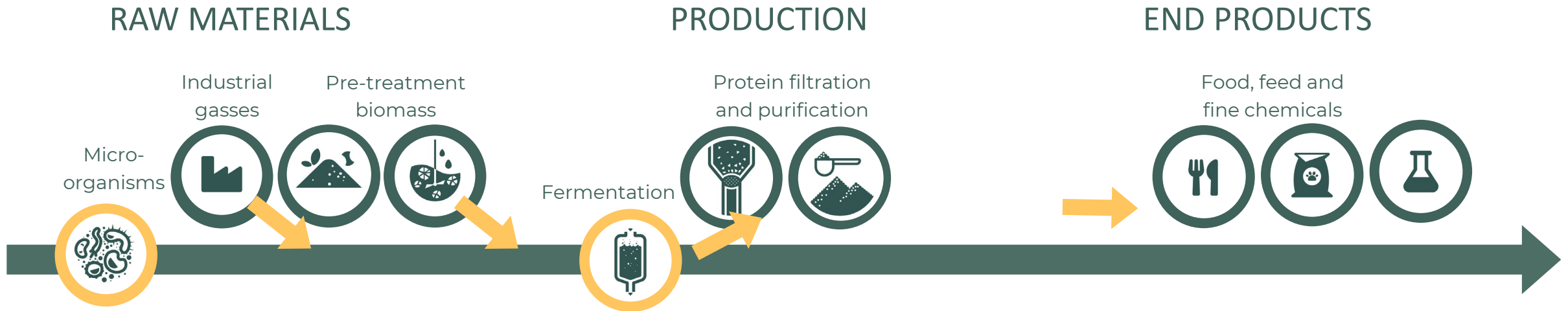
Biomass fermentation	Precision fermentation
<p>Microbial biomass is the product, >50 % is protein</p>	<p>Microbial biomass is a catalyst, but not the (main) product. Protein is secreted</p>
<p>Non GMO</p>	<p>Usually GMO, SynBio tools needed</p>
<p>Easy processes</p>	<p>More complex processes, particularly the purification</p>
<p>Single source for production of food</p>	<p>Higher yield of protein, collagen,...</p>



✓ Industrial activities covering the whole chain



✓ Top research covering the whole chain



Metabolic engineering of microorganisms
BBEPP, UGent

Synthetic biology
Microbial technology,
Chemical processing technology

UGent

Systems developing in biotechnology

CAPTURE

Optimizing and scaling of fermentation and downstream processing

BBEPP

Protein analysis and characterisation

UGent, ILVO, BBEPP

Processing food and feed

ILVO

Feed trials

ILVO, UGent

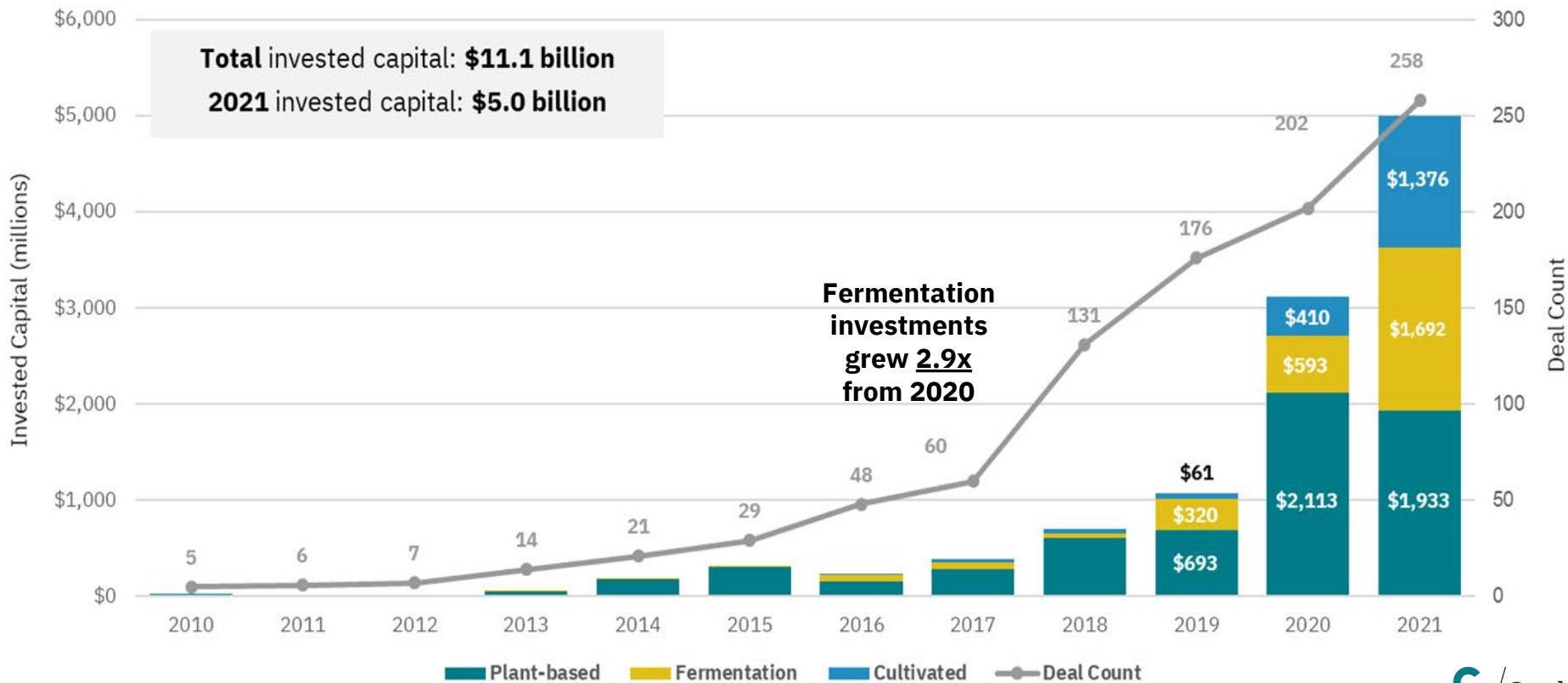
Ecological Footprint

CAPTURE,
UGent, ILVO



Alternative proteins seeing rapid investment growth

Annual investments in alternative protein companies 2010 – 2021



Source: GFI analysis of PitchBook Data, Inc. Data has not been reviewed by PitchBook analysts.

Note: Invested capital includes accelerator and incubator funding, angel funding, seed funding, equity and product crowdfunding, early-stage venture capital, late-stage venture capital, private equity growth/expansion, capitalization, corporate venture, joint venture, convertible debt, and general debt completed deals.



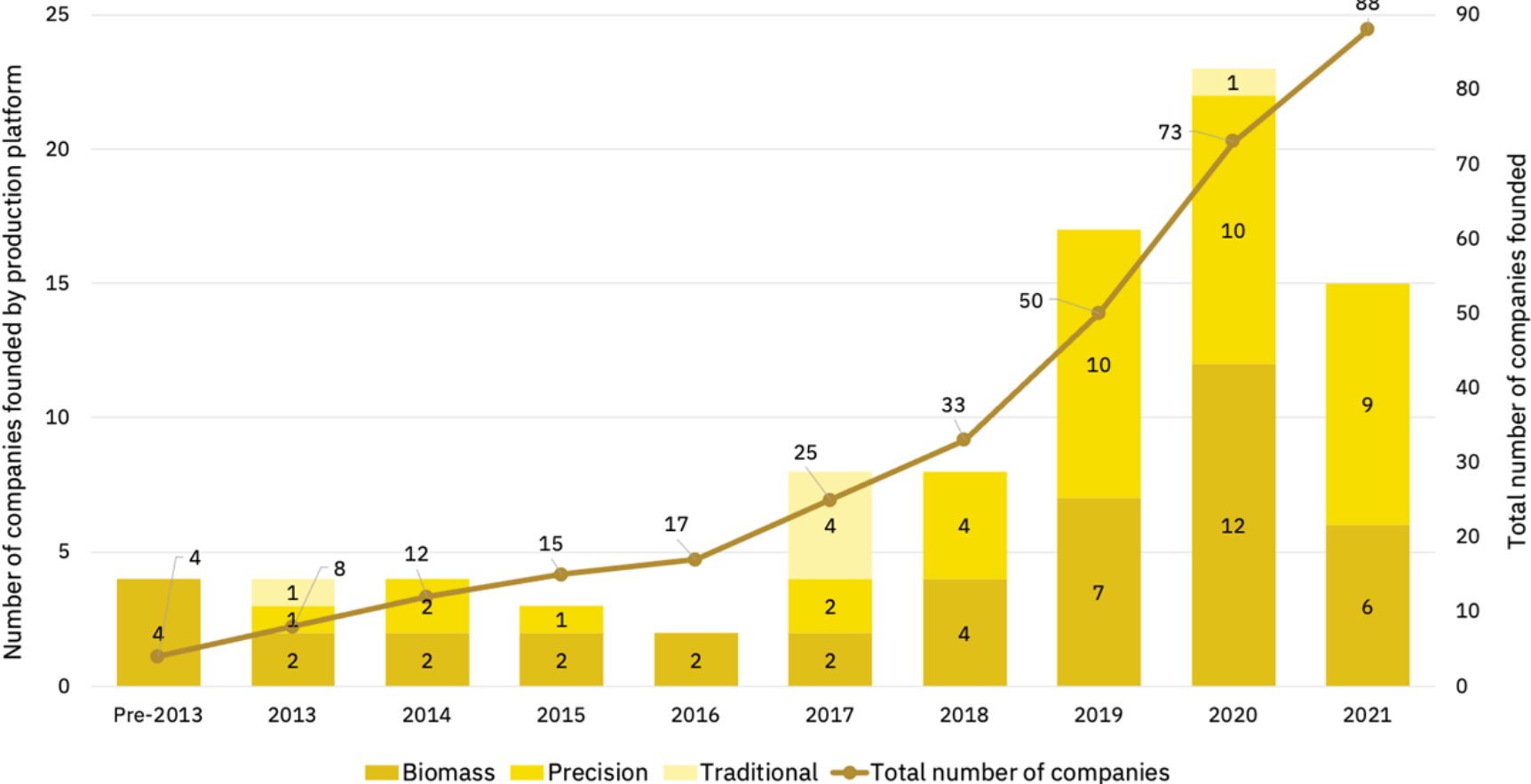
**GREEN
DEAL**

010. EIWITSHIFT
OP ONS BORD



The fermentation landscape is expanding

Number of companies in fermentation-enabled alternative proteins by year



Source: [GFI company database](#)

Brouwen is van oudsher



Brewing up a new business: AB InBev surprises with ambitions for animal-free proteins

January 25, 2023 | Article | [BioVox](#)

[f](#) [in](#) [t](#)



Belgian-American AB InBev, the world's largest brewer, has set up a separate R&D division called BioBrew to develop animal-free proteins using precision fermentation. Quite a number of companies are already focused on producing alternative proteins, which don't cause harm to animals and are more sustainable, but they generally lack the capacity to produce them on a commercial level. This is one of the things that sets BioBrew apart, thanks to AB InBev's knowhow of using yeast fermentation on a large scale to make beer.



Marco Bertacca • 2e

CEO at Quorn Foods

1 j • Bewerkt •

+ Volgen ...

Exciting times here at [Quorn Foods!](#)

Just last year, we commissioned our fourth fermenter at Belasis, Quorn's 'protein farm' in the north east of England. And already work is underway to build a fifth, 170,000 litre fermenter. Every week it will produce 375 tonnes of Quorn mycoprotein, our unique super-protein at the heart of all Quorn products. This will take our overall annual capacity to 67,000 tonnes of mycoprotein – that's the protein equivalent of 143,000 cows! – by far the biggest facility of its kind anywhere in the world.

Behind me in this photo you'll see the giant fermenter lying horizontally, ready to be lifted into place by my two very skilled colleagues! 😊

[#mycoprotein](#) [#investment](#) [#future](#) [#food](#) [#work](#)

[Vertaling weergeven](#)



722

31 commentaren • 9 reposts



ACHTER DE SCHERMEN

Revolutionair voedingsbedrijf investeert 50 miljoen

Nuggets, hamburgers, boterhambeleg... steeds meer mensen kiezen voor vleesvrije varianten. Een gigantische markt, die nog helemaal open ligt. En daar speelt de start-up Naplasol uit Bree op in. Het bedrijf heeft 2 jaar de tijd genomen om een uniek procédé te ontwikkelen waarbij plantaardige eiwitten worden opgekweekt tot een smaakloze vleesvervanger, die qua uitzicht en structuur erg lijkt op kippenwit. Grote voedingsproducenten zijn erg enthousiast over de eerste proeven om van de vezelrijke basisgrondstof smakvolle eindproducten te maken. De eigenaars van Naplasol geloven rotsvast in de toekomst van hun product, en investeren maar liefst 50 miljoen euro in het opzetten van een moderne productieplant.

Media uptake member – VRT NWS 21Dec2022



Hoofdpunten Regio Kijk Luister Meest recent



Kopen we binnenkort kaas zonder koe? Misschien wel, dankzij de doorbraak van deze Gentse start-up

De Gentse start-up Those Vegan Cowboys is erin geslaagd caseïne te produceren, een belangrijk bestanddeel van kaas, zonder dat er een koe aan te pas kwam. Dat is een belangrijke stap die de start-up op weg moet zetten naar volledig koevrije kaas. Zo'n kaas zou een gevoelig lagere milieu- en klimaatimpact hebben dan traditionele kaas. Maar het zal nog wel enkele jaren duren voor je hem in de winkel kan kopen.

Brussels-based Paleo just raised €12 million to bring the real taste of meat to plant-based foods

By [Thomas Ohr](#) February 21, 2023



The Belgian foodtech startup [Paleo](#) has closed a Series A funding of €12 million to scale up production of key ingredients for plant-based meat and fish alternatives through precision fermentation technology. It also enables the move into commercial production.

Paleo is a Belgian precision fermentation company that allows food manufacturers to offer a “real taste” experience, by providing key ingredients for environmentally friendly and cruelty-free meat and fish alternatives. To scale and grow, Paleo just raised €12 million in a Series A funding round, led by DSM Venturing and Planet A Ventures, joined by Gimv, SFPIM Relaunch, Beyond Impact, and Siddhi Capital.

Contact



Bezoek onze website: <https://theproteinclub.eu>



Volg ons op LinkedIn

Sluit aan in de Industrial Sounding Board

We maken graag kennis!