The Plant-based : trend and innovation at the SIAL 2024

Introduction

SIAL Paris 2024 : We are celebrating 60 years of excellence and global food innovation! In Hall 8, fruits, vegetables, cereals, and legumes are joining the celebration. And for good reasons! In a context where health and pleasure are both prioritized in food choices, there is nothing more natural than plant-based products leading the way. The vegetalization of our dishes is a major challenge. NutriMarketing has taken the initiative to share viewpoints with Manger du Sens and Very Foody.

Sommaire

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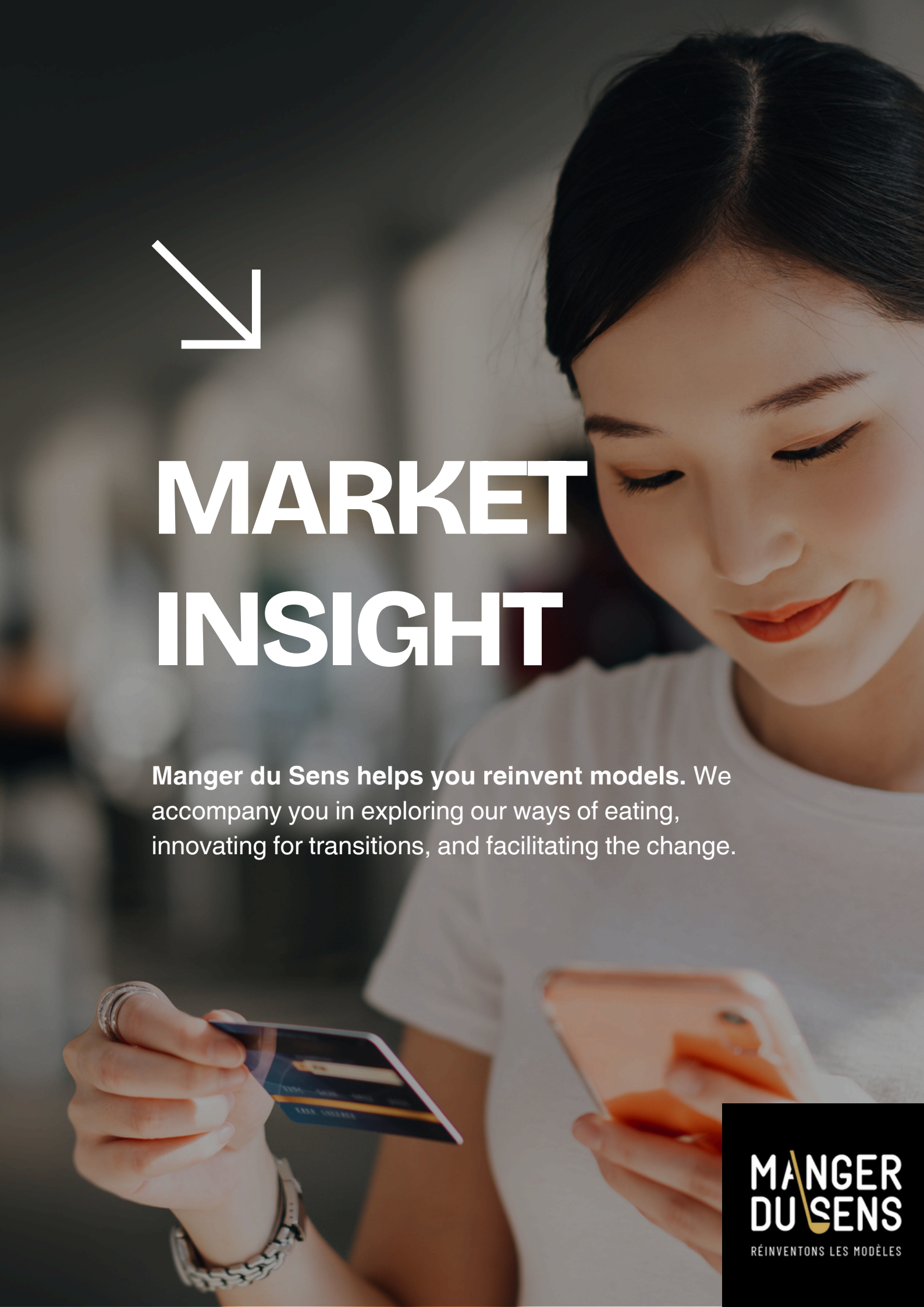
Precursor of fresh and healthy plant-based cooking, triple-star chef Alain Passard (l'Arpège) imagines authentic recipes where plant-based ingredients are kings, contributing to placing plant-based cooking at the forefront of French cuisine.



MARKET INSIGHT

Manger du Sens helps you reinvent models. We accompany you in exploring our ways of eating, innovating for transitions, and facilitating the change.

MANGER DU SENS
RÉINVENTONS LES MODÈLES

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More plant-based proteins are necessary for a sustainable and healthy diet.

MANGER DU SENS

RÉINVENTONS LES MODÈLES

↘ Why ?

« 60 to 70% of the food proteins consumed in developed countries comes from animal products, when the global average is 30% »

Source : "Plus de protéines végétales, chiche ?" INRAE

In France, 65% of our protein intake is animal-sourced, while only 35% is plant-based. Meat consumption should increase by 65% by 2050, due to the rising world population combined with the increasing purchasing power of developing countries. By 2100, global protein demand is expected to have increased by 30%.

89% declare that they are paying better attention to what they are buying. 62% are forced to consume less. This "forced sobriety" primarily affects those with low income and coexists with a "chosen sobriety" (65% of French people declared:"I've decided to consume less")

« Inflation has forced us to rethink our consumption: 59% of French people are facing financial difficulties »

Source : Observatory for Responsible Consumption, 2023, CITEO x l'Obsoco.

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How ?

“With today’s knowledge, protein intake should be between 0.83 and 2.2 g/kg/day (10% to 27% of our energy intake) in order to be considered adequate for an adult under 60.”

Thus, the recommended intake for a 70 kg man should be about 58 g of protein per day. Particular situation may change this need, Nevertheless, even if this objective is clear and there is a consensus around it, the reality is not that clear and drastic changes in consumer behavior should occur.

Source : ANSES (Agence nationale de sécurité sanitaire de l’alimentation, de l’environnement et du travail)

To obtain a balanced-in-amino acid diet from plant-based proteins, consumers need to combine multiple plant-based food in their dishes: legumes (lentils, beans, peas, etc...), cereals (rice, wheat, corn, ...). For example, the rice and soy association help balance lysine intake (low in rice but high in soy) and the sulfur amino acids intake (low in soy but high in rice)

“If we ask consumers to replace meat with protein-rich vegetables, it would be like substituting a central food with side dishes.”

According to Sandrine Monnery-Patris, researcher in cognitive psychology
at the Centre des sciences du goût et de l'alimentation -Inrae à Dijon (Côte-d'Or).

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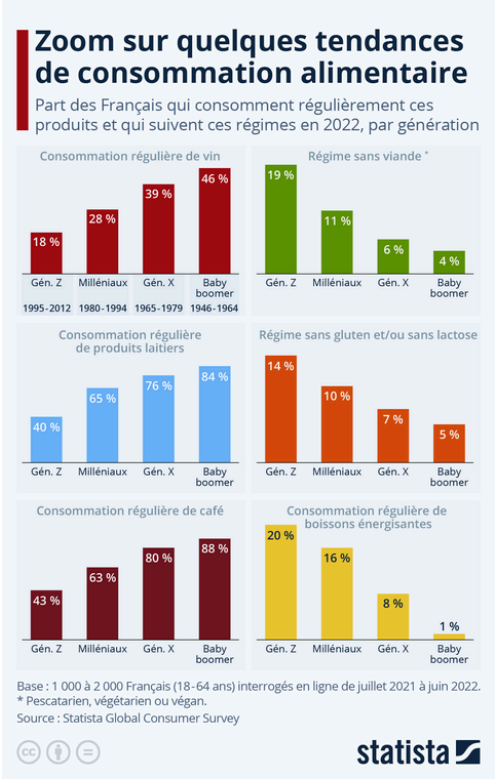
What are the young generation saying ?

« An increasing number of people from the younger generation are limiting their meat consumption, favoring veggie alternatives. This doesn't necessarily mean that the dish is healthy, as 36% report eating "veggie nasty" food, leading to a perception of greedy veganism. »

Source : Etude Young & Hungry, Unify et Marmiton, 2022

13% of Millennials and 17% of Gen Z are adopting pescatarian, vegetarian, or vegan diets, compared to only 7% of Gen X and 3% of Baby Boomers. Therefore, there is a significant generational effect on the plant-based trend.



Plant-based alternatives are booming

"The market size is projected to reach €37 billion in 2021 and nearly €50 billion by 2028"

Source : The Insight Partners study

In Europe, GFI Europe's analysis of NielsenIQ retail sales data covering 13 European countries shows that plant-based sales increased by 6% in 2022 and by 21% from 2020 to 2022, reaching €5.8 billion according to Ingrid Barthod of Isara Conseil. According to her, there is still not enough variety of vegetables and fruits in our diet, but we can see more combinations of cereals and legumes.

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Retail drives growth!

> “ Plant-based deli section sales have increased by 15% in retail in 2023. This growth has been driven by startups enhancing the quality of their offerings. These young brands are fighting ultra-processed products. ”

Source : Selon NielsenIQ ins Circuits Bio | November 28 2023 | Céline Bousquet

In terms of innovations, numerous startups have invested in mycoproteins (mushroom proteins), microalgae, and algae, as well as in indoor agriculture with controlled environments and hydroponic cultivation. This market has “exploded” in the U.S.

In France, €2.6 billion was invested in innovative agriculture in 2022. Additionally, because of the Egalim law, school lunches must offer at least one vegetarian menu per week. Fast-food restaurants also include more and more vegetarian or vegan options in their offers.

You all get it now: plant-based diets are on the rise and can inspire a sustainable, healthy, tasty, and desirable way of eating. The opportunity is there.

NUTRITION & TRENDS

NutriMarketing helps you become sustainable.
We are an agency specialized in innovation monitoring, new product development, and nutritional communication.

NUTRI MARKETING

2024 innovation & the future of plant-based market

Innovations in the plant-based field are numerous. Some focus on new plant-based proteins to replace the core of meals, dairy products, cheeses or seafood, while others take a more natural approach in traditional fields, reviving well-known but forgotten products. Plant-based snacks, the incorporation of fruits (dried, infused, candied) to increase the recommended consumption of fruits and vegetables, and “other ways” of eating fruits and vegetables like pure fig juice, date chips, chickpea snacks coated with sesame, textured proteins, or fermented options all seem like promising leads.

Going further, new agricultural methods allow the production of microgreens, mushrooms, microalgae, mycoproteins, and sprouted or fermented vegetables—such as Korean kimchi or French sauerkraut—sometimes using hydroponics, aeroponics, or precision fermentation. Upcycling, a way to add value to agricultural by-products, is also driving innovations that successfully combine pleasure, nutrition, and sustainability.

NUTRI MARKETING

Formulate plant-based solution & discover new sources of green proteins

Formulate meat substitutes or create products that are “half-green, half-red.” This is also a solution. We can drastically reduce meat consumption by making vegetarian meals, but also by proposing products that contain less meat by adding cereals, pseudocereals (like quinoa), legumes, or seeds. This approach offers more protein and nutrients without compromising on taste or pleasure. For example: apricot and almond pork tenderloin served with rice and lentils; vegetable fried spring rolls with lentil sprouts... pure formulation.

« Vegetalizing our diet: it’s recommended by nutritionists and climate change experts. It’s also what the younger generation of consumers wants. »

Here are three main reasons:

Our health

The World Health Organization (WHO) classified processed meats (such as cured meats) as carcinogenic to humans, and red meat as potentially carcinogenic. Therefore, each 50 g portion of processed meat consumed daily would increase the risk of colorectal cancer by 18%. Terrestrial proteins (beef, lamb, pork) are almost all linked to saturated fat, which increases the risk of cardiovascular diseases.

The environment

Livestock farming is responsible for 14.5% of global greenhouse gas emissions. Some countries have decided to significantly reduce their livestock numbers. The risks of zoonoses and antibiotic resistance are high. Overfishing does not allow the preservation of marine ecosystems.

Animal welfare

Animal welfare is a significant concern for consumers, particularly for the French. Shock campaigns against slaughterhouses(L214), have increased this sensitivity. In 2016, 60 billion animals were killed for their meat, and 110 billion are expected by 2050!

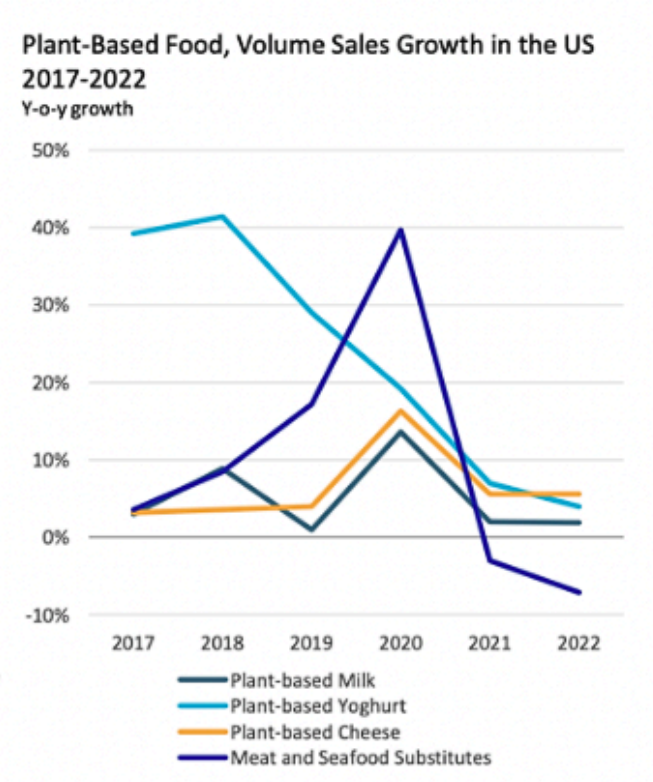
What does the consumer want ?

Should we listen to him or observe him? His buying behaviour is not always consistent with his words.

Virtually all Europeans have a predominantly carnivorous appetite. The generational breakdown becomes relevant to understanding. While Baby Boomers remain attached to meat, this is no longer the case for Gen Z, who appreciate meal solutions without meat or fish.

The French are particularly suspicious and prefer to taste with their fingertips before taking the plunge. Packed with additives and far from satisfying Gallic palates, the first formulations of Vegan products were poorly received.

This was not the case in the US, where consumers flocked to Vegan burgers, a substitute for good American-style burgers. The initial sales figures were staggering. They sucked in investors, who were convinced that they would appeal to the stomachs of millions of Americans.



Five years later, meat substitutes are failing in the U.S., with declining sales for the third consecutive year, according to Circana 2024. More and more Americans identify as carnivorous, while fewer consider themselves flexitarians, and veganism is stagnating.

Is it the end of the steak alternatives? Turnover for meat alternatives in the U.S. was valued at $1.1 billion in 2023, according to Circana. They are facing their third year of depletion, losing 11.4% compared to 2022.

Circana points out the good performance of products with short ingredient lists, particularly those based on mushrooms.

> **Texturized plant-based protein market is expected to reach $ 2.3 bn by 2019 , from $1.7 billions in 2024, with a CAGR of 6.8% during the forecast period.**

The textured plant protein market is expected to reach $2.3 billion by 2029, up from $1.7 billion in 2024, with a CAGR of 6.8% during the forecast period in terms of value.

Pulses have been staples of protein consumption around the world for generations, yet they've never been so trendy. Since the International Year of Pulses proclaimed by the United Nations General Assembly in 2016, these ingredients have become celebrated superfoods due to their sustainability benefits, affordability and high nutritional value, and this trend continues.

It's hard to start with pulses, because the family is not well known and their uses seem complicated (soaking, long cooking times, digestive problems). Here are some new ways of incorporating them directly onto your plate or into other preparations: take a look at red football lentils or coral lentils (without the tegument, and with two cotyledons), all the unknown 'little legumes', and the legume powders that can be incorporated just about anywhere.

Those invading little seeds…

Precious, tasty, and full of nutritional benefits, they grace our tables, combining pleasure and health. Did you know that they are nutritional "treasures" because they are like a "plant egg," rich-in all the necessary elements needed for a new plant to sprout? Particularly rich in micronutrients, they are invaluable to our health and can improve a poor diet.

There is still much to discover about them in terms of taste, organoleptic qualities, stability, safety, allergens, nutrition, traceability, … in order to put them in the spotlight.

> **"Among all the seeds, we'll remember that 2024 is the year of the cashew nut!**

Natural or flavored—sweet or savory, smoked, toasted, or raw—cashews can be transformed into a delicious plant-based protein powder, spread, plant-based milk, tofu, or even "fake cheese" (plant-based cheese). They are omnipresent.

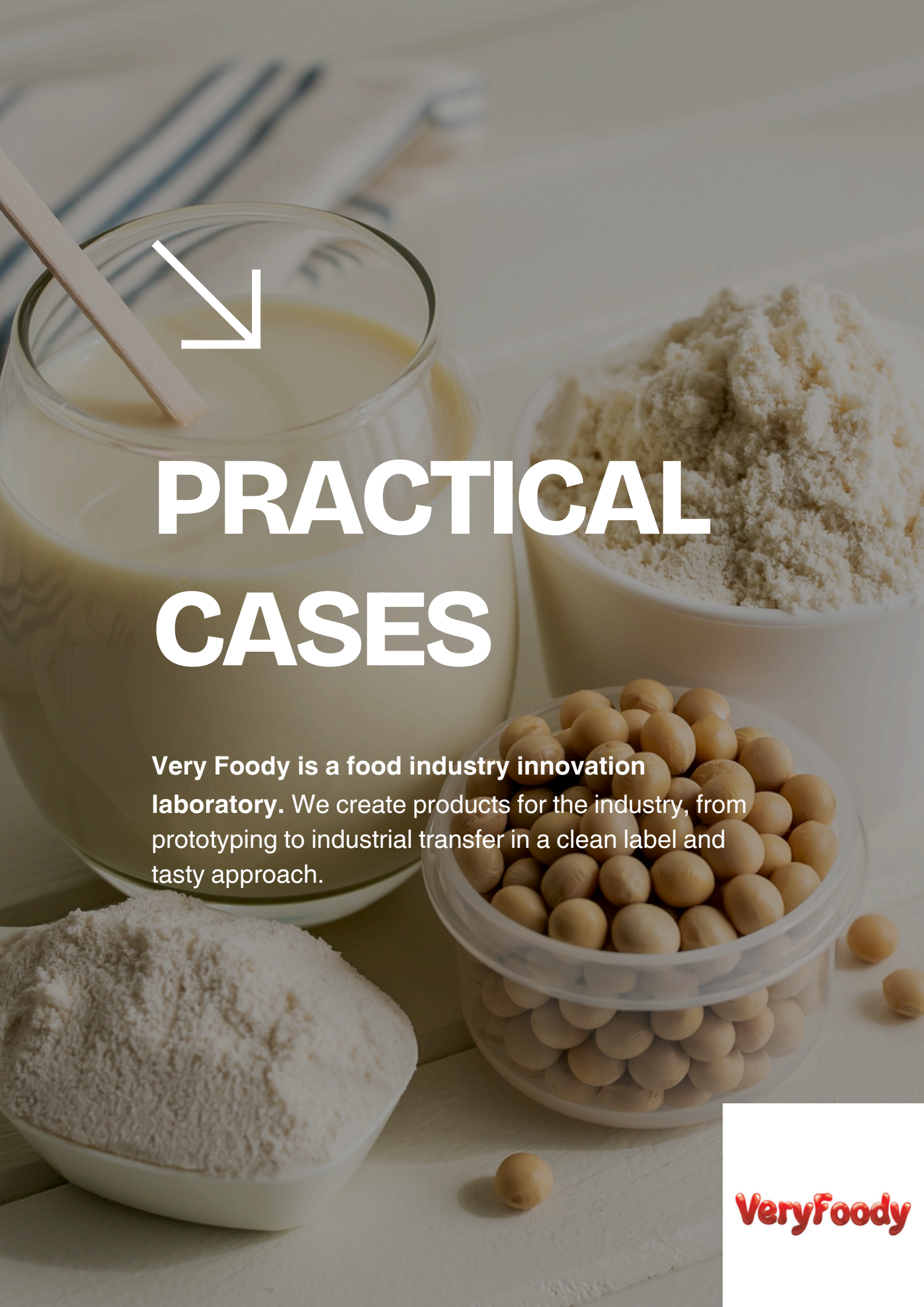
But they are not the only ones. At SIAL 2024, Hall 8 was full of new seed solutions: chia seeds, red, black, or white sesame seeds, hemp seeds (natural or fermented), flax seeds of all colors, and various types sourced from distant lands.

Cereal bars
rich in protein.

Western Indian Cashew Co 8D D40
De-oiled cashew meal, rich in protein.

Apricot seed, rich in protein and fibers. Thanks to its taste, this is ideal for protein shakes applications, deserts and baking products. The combo of protein and fibers improves satiety. Excellent source of vitamins E, A and B, along with potassium, magnesium, calcium, iron and zinc.

GE.CA LEGUMI Spa - 8 F 002
Dry legumes skinless to increase digestibility and convenience : only 30 min of cooking, without watering.



PRACTICAL CASES

Very Foody is a food industry innovation laboratory. We create products for the industry, from prototyping to industrial transfer in a clean label and tasty approach.

VeryFoody

Off-notes-free Plant-based proteins

Plant proteins, such as those derived from peas, soya or beans, are increasingly optimized technologically to eliminate the off-notes inherent in their plant origin. In addition, enzymatic and heat treatments are often used to improve the solubility and digestibility of these proteins, while neutralizing undesirable flavors.

Practical case

Protein drinks formulated with tasteless pea protein have experienced great success. These drinks, designed for athletes and consumers concerned about their protein intake, offer a vegan alternative with a neutral taste profile and no unpleasant aftertaste, thereby maximizing their sensory accessibility.

In application

VeryFoody

Texturing protein to replace methylcellulose

Methylcellulose, often used for its gelling and thickening properties, can be replaced by more natural alternatives such as textured wheat proteins, rice starch, or tapioca starch. These ingredients work by creating a three-dimensional network in the food matrix, mimicking the structuring and emulsifying properties of methylcellulose.

Practical case

Multiple vegan products, such as burgers and nuggets, use textured wheat protein and tapioca starch to mimic meat texture while offering a clean label alternative. This approach allows the formulation of meat substitutes with a reduced and natural ingredient list, addressing the increasing demand for plant-based products.

In application

VeryFoody

Cacao fiber as a substitute related to cacao shortage

Co-product usage, such as cacao fiber, is part of the circular economy and upcycling approach. Cacao fiber is rich in insoluble fiber and polyphenols, which gives it with antioxidant and texturing properties. It can also be used in the formulation of bakery products, snacks, or functional beverages.

Practical case

Using cocoa fiber to replace cocoa powder increases the fiber content and creates a denser texture, particularly in biscuits. As well as reducing the waste associated with the cocoa industry, this product brings functional benefits to consumers, such as improved digestion and a greater feeling of satiety.

Rice flour brings a creamy binder

Rice flour represents an important technological potential as a natural texturing agent. Its ability to create a viscoelastic network when in contact with water makes it a perfect substitute for classical thickeners and emulsifiers. Mainly used in gluten-free formulations, it allows for increased viscosity and emulsion stability, mimicking the functional properties of dairy cream proteins. Its rheological properties are particularly interesting, especially for plant-based product usage, where it reproduces the creamy texture of dairy products while being hypoallergenic.

Practical cas

A popular brand uses rice flour in its creamy vegan sauce formulation, ensuring a smooth, creamy texture that is dairy-free and additive-free. This allows the development of a range of gluten-free pasta sauces, combining creamy texture with a clean label, while responding to the expectations of gluten-intolerant consumers or those wishing to reduce their dairy consumption.

In application

VeryFoody

Oat powder as a substitute for dairy proteins

Oat powder contains beta-glucan and starch, allowing it to mimic the viscosity and smoothness of dairy products. Studies have shown that these polysaccharides possess thickening and stabilizing properties comparable to those of dairy proteins, while also adding fiber. The water retention rate of this oat powder allows the creation of stable colloidal structures, making it ideal for plant-based dairy substitutes. Its nutritional profile, associated with its low amount of saturated fat, makes it a very good ingredient for clean label formulations aimed at meeting consumer expectations for health and naturalness.

Practical case

A brand that specializes in dairy alternatives has launched a plant-based dessert with oat powder. This product, naturally high in fiber and lactose-free, manages to mimic the creamy texture of traditional yogurt, providing vegan and lactose-intolerant consumers with a tasty and nutritious alternative.

Oat syrup and dehydrated rice for sugar reduction

Oat syrup and dehydrated rice distinguish themselves by their high content of complex polysaccharides, especially beta-glucan, which plays a role in regulating blood sugar levels and reducing sugar content in the food industry. These syrups retain their sweetening power while providing soluble fibers, thereby contributing to better metabolic health. Their molecular structure allows for a progressive release of glucose into the bloodstream, making them convenient for low-carb diets. These solutions are ideal for low-sugar products, where the reduction of simple sugars has become a regulatory and nutritional necessity. They allow for the substitution of up to 30% of sugar in recipes.

Practical case

Multiple energy and hydration drinks use oat syrup and dehydrated rice as a sugar reduction solution. These drinks, dedicated to sports nutrition, maintain their pleasant sugary flavor while reducing simple carbohydrate intake and improving blood glucose regulation.

Citrus fruit fiber as texturizer

Citrus fibers are rich in non-digestible polysaccharides, notably pectin, which plays a key role in gelling and thickening food matrices. Their use as texturizing agents relies on their ability to interact with water molecules, thereby increasing the viscosity of low-fat food systems. In addition, citrus fibers offer a complex matrix of bioactives, notably flavonoids, which provide functional benefits such as antioxidant properties and a contribution to satiety.

Practical case

A health snack manufacturer uses citrus fruit fibers in its fiber-rich biscuit and cereal bar formulations. By improving the texture, these fibers increase the fiber content, contributing to digestive health and reducing fat content in processed products.

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Multiple plant-based solutions are being developed by ingredient suppliers in the food industry to address the high market demand.

It would be ideal to rethink product formulations to make them as tasty as before.

VeryFoody

Contact us

Manger du sens

Freddy Thiburce
Co-founder of Manger du sens
freddythiburce@gmail.com

Jeanne-Eloïse Guérin
Project Manager of Manger du sens
jeanne-eloise@mangerdusens.fr

NutriMarketing

Béatrice de Reynal
Nutritionist
beatrice@nutrimarketing.fr

Very Foody

Aurélie d'Assignies
CEO of Very Foody
aurelie@veryfoody.com