

Association sans but lucratif - Loi du 1^e Juillet 1901



FIE 2021 Insight

November 30th - December 2nd, 2021 – Frankfurt

Report

FIE 2021 in numbers



Exhibitors
800+



Attendees
17,000



Countries represented
135+

FIE AWARDS

Sensory Innovation Award

This award recognizes an organization or company that has developed the best ingredient or process in terms of enhancing the sensory experience of food products such as taste, texture, smell and /or appearance, without significantly increasing application costs.

Cargill - Bright White Chocolate (Winner)

With the visual appeal of chocolate-based products being the second most important purchase driver and with white chocolate growing in popularity, Cargill cocoa & chocolate took the challenge to sublimate regular yellowish white chocolate and create a dazzling white chocolate that is truly white in colour: Bright White. Identified by 92% of consumers as whiter than regular white chocolate, Bright White is visually appealing as well as indulgent with its balanced, sweet, and smooth taste profile.

AAK - AkoBisc GO! : The new Biscuit Fat revolution

AkoBisc® GO! is a revolutionary biscuit fat, low in saturated fatty acids and free from tropical fats. When using a simple liquid oil to answer the low SAFA trend, there are multiple sensorial issues that arise such as oiling out, undesired fried taste, high cookie hardness and fatbloom.

AkoBisc® GO! is creating a unique sensory biscuit quality, with a crunchy bite, no fatbloom and no discoloration over time. AAK is Making Better Happen from plant to brand using our unique customer co-development approach.

Plant-based Innovation Award

This award recognizes an organization or company that has developed the best plant-based ingredient or application based on a plant-based ingredient in terms of sensory and physical properties or application costs.

DSM - Maxavor® Fish YE: First-of-its-kind vegan fish flavor (Winner)

Derived from algal oil, DSM's range of Maxavor® Fish YE process flavors is natural, sustainable and meets vegan, Kosher and Halal requirements, making it suitable for a range of label claims. The Maxavor® Fish YE solution helps to build authentic fish flavors in plant-based fish alternative products, including vegetarian fish nuggets and

vegan fish sauce. Maxavor® Fish YE enables producers to emulate the body, mouthfeel and taste of distinct fish varieties and offers two taste profiles: one for rich and oily dark fish and another for fresh, light, and fleshy white fish.

DSM - Delvo®Plant: Portfolio of enzymes for great tasting plant-based dairy alternatives

To help producers truly differentiate their plant-based dairy portfolio, DSM launched Delvo®Plant PHY and Delvo®Plant PSP enzymes that help to improve the nutritional value of plant-based drinks and create gluten-reduced dairy alternative varieties. DSM's Delvo®Plant range also includes solutions to optimize the taste, texture, and mouthfeel of cereal-based (such as oat and rice) and non-cereal-based (like soy and almond) dairy alternative drinks.

Sprau - Awakening the faba bean to its full potential

Germination - a natural way to awaken the faba bean to its full potential. Faba beans demonstrate huge potential to help both agriculture and the food industry become more sustainable. However, their use is limited by the digestive discomfort they may cause as well as their beany flavor. With the germinated faba bean Sprau, this is no longer the case. During germination, the bean efficiently degrades FODMAPs, and our unique treatment leaves the bean with a mild, cereal like flavor, making the beans easier to enjoy in the everyday diet.

Clean Label & Natural Innovation Award

This award recognizes an organization or company that has developed the best clean label ingredient or process in terms of sensory and physical properties or application costs.

Bunge Loders Croklaan - Karibon: 100% Shea-based premium Cocoa Butter Equivalent (Winner)

Karibon is the first 100% shea-based premium Cocoa Butter Equivalent (CBE) that has all the processing benefits & versatility of leading CBEs with the nutritional & sustainability benefits of shea. It has an improved nutritional value compared to Cocoa Butter & traditional CBEs.

Karibon can be used in the final recipe to partly replace or complement cocoa butter while maintaining the performance and sensory perception in the final application.

MartinoRossi Spa - Meat Substitute Mix Ragù

Meat Substitute Mix Ragù is a plant-based Mix totally allergen-free, GMO-free, and gluten-free, specifically developed to produce plant-based bolognese style sauce with excellent nutritional characteristics. Meat Substitute Mix Ragù is rich in protein and fiber, shelf-stable (12 months shelf-life), CLEAN LABEL and with a short ingredient list: only four ingredients, two of them being pulses flours. Meat Substitute Mix Ragù is neutral flavor and is with no methylcellulose, it has a great mouthfeel and is very easy

to use. It allows an outstanding sauce final structure result, thanks to its great water absorption property.

Millbo - X-Tra Guard: Natural preservatives

X-Tra Guard - The Shield of plants X-TRA GUARD is a natural ingredient that eliminates the use of chemical preservative Sorbic Acid. X-Tra Guard has been extracted from the Rowanberry (*Sorbus Aucuparia L.*); The Extraction has been meticulously developed to help preserve the best from the Rowan Berry. The product is stabilized with tapioca for most uses and with dextrose where a cold-water-soluble solution is needed making this product not only clean-label but also suitable for all diets, and Kosher and Halal Certified.

Lutkala Ltd - Natural thickeners

At Lutkala, we believe that the production of TRULY healthy food WITHOUT SYNTHETIC CHEMICAL ADDITIVES is possible, even on the industrial scale. That is why we have created a product which is COMPLETELY NATURAL and produced WITHOUT USING CHEMICAL REAGENTS at any stage. Its environmental footprint has been limited to the absolute minimum. At the same time, Lutkala has the properties of a GOOD FOOD THICKENER.

Clean Label: Lutkala is a natural replacement for chemical or synthetic thickeners, such as pectins, modified starch or xanthan gum. The use of Lutkala makes it possible to eliminate undesirable "E" ingredients, visible on the labels of many food products. Lutkala allows to change the perception of the product from "artificial" to "completely natural", with an image desired by consumers. Lutkala is a thickener which perfectly fits the "Clean Label" trend.

Health Innovation Award

This award recognizes an organization or company for the development of the best ingredient or application in terms of proven contribution to digestive, cognitive, immune, or physical health.

Bunge Loders Croklaan - NuliGo: A uniquely structured Medium- and Long-chain triglyceride (sMLCT) (Winner)

Bunge created NuliGo, a uniquely structured medium- and long-chain triglyceride (sMLCT) that supports muscle building, maintenance, and recovery. NuliGo combines the rapid energy of MCTs with longer lasting energy from LCTs, in a single molecule and delivers it directly to muscles. This unique benefit makes it an ideal ingredient for sports nutrition, active aging, and medical foods categories.

ADM - Microbiome Modulation through HT-BPL1 (Heat-Treated Bifidobacterium animalis subsp. lactis BPL1)

ADM's revolutionary HT-BPL1 postbiotic provides food and beverage manufacturers with the opportunity to incorporate a gut microbiome-focused ingredient into a variety of applications that require heat processing conditions."

Arjuna Natural Pvt. Ltd - Rhuleave-K®: Using a patented SPEED™ technology to deliver fast pain relief

Rhuleave-K® is a unique formula that combines the goodness of turmeric, Boswellia and other actives using a patented SPEED™ technology that creates a powerful formula designed to deliver fast pain relief and reduce inflammation. Unlike conventional natural formulations for pain management for long, which typically provide relief in days or week. Rhuleave-K® with its unique proprietary SPEED™ technology supports pain relief in up to 3 hours. It stands as the first natural solution for safe and effective pain management. This formula is scientifically documented with clinical data proving its efficacy in providing fast pain relief comparable with Acetaminophen.

NutriLeads - BeniCaros™: A proprietary immune health ingredient

BeniCaros™ is a proprietary immune health ingredient that has been clinically studied and shown to support immune function and optimize responses to potential threats and challenges. NutriLead's proprietary extraction process to produce BeniCaros unlocks rhamnogalacturonan-I (RG-I), a soluble fiber, upcycled from carrot pomace. With a dual mechanism of action, BeniCaros directly supports the immune system to become more responsive and indirectly supports immune function by stimulating beneficial gut microorganisms and their metabolites, which in turn support the immune response. Both mechanisms help to support a healthy immune system to be at its best when it matters most.

Vaneeghen – Futureceuticals - S7™: Phytonutrients clinically shown to target the reduction of ROS (oxidative stress) within the body

S7™ is a plant-based proprietary formula that delivers seven phytonutrient-rich botanicals - green coffee bean, green tea, turmeric, tart cherry, blueberry, broccoli, and kale at a low and effective dose. S7™ delivers documented results at only 25 - 50mg.

S7™ is truly unique because it has been shown to deliver natural energy by clinically supporting, quantifiable nitric oxide increases and oxidative stress reductions directly in two human clinical studies.

Food Tech Innovation Award

This award recognizes an organization or company that has developed an innovative technical processing/manufacturing/packaging/waste reduction solution or service for food ingredients or finished products.

Chr. Hansen A/S - Next-generation FreshQ®: Fermentation-enabled Bioprotection Solution for Dairy (Winner)

The new generation of FreshQ® food cultures is a game changer enabling fermentation-based bioprotection against yeasts and molds without undesirable sensory impacts and acidity development often experienced with other culture

solutions in the market. This launch builds on a breakthrough discovery by our scientists. They were first to explain the mode of action coming from the ability of the culture to compete with spoilage contaminants for a specific nutrient, manganese (Mn). FreshQ® food cultures can be used in yogurt, sour cream, quark, tvorog, white and cottage cheese and plant-based alternatives and helps producers improve quality and shelf life - naturally.

AAK - AkoBisc GO! The new Biscuit Fat revolution

AkoBisc® GO! is the new biscuit fat revolution. This structured emulsion combines hydrated monoglyceride bilayers with sugar, stabilizing oil droplets in the aqueous phase with a revolutionary technique. Sugar increases the viscosity and reduces the water activity to obtain increased technical functionality and microbial stability, ensuring an extended shelf-life of the emulsion. When used in biscuit manufacturing, AkoBisc® GO! enables an easy production process and multiple sensorial benefits. It is low SAFA, non-hydrogenated, free from tropical fats and low in 3-MCPD. AAK is Making Better Happen from plant to brand using our unique customer co-development approach.

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ICL Food Specialties - JOHA® SF Line: The New Generation of Emulsifying Salts

ICL Food Specialties designed a new generation of their trusted JOHA® emulsifying salts, the JOHA SF line, used to optimize protein content in processed cheese and deliver 360° benefits. JOHA SF line is ideal for spreadable, snackable, and aluminum foil-packed processed cheese (PC) applications, as well as analog and UHT-treated cheese applications. Choose JOHA SF for:

- Improved appearance: Maximize first impression by reducing the stickiness, even in economical formulations
- Healthfulness: Reduce sodium compared to competitive formulations
- Cost control: Optimize protein content by keeping the same level of firmness
- Cleaner label: Reduce use of hydrocolloids or starch
- Processability: Ensure a constant, ideal viscosity during packaging.

Sustainability Innovation Award

This award recognizes an organization or company for a measurable supply chain strategy that champions environmental, economic, or socially sustainable practices in the F&B industry.

Fonterra Cooperative Group/NZMP - Acting on climate change today through carbon zero capability (Winner)

NZMP recently launched its first carbonzero™ certified ingredient – Organic Butter. It's certified carbonzero™ by Toitū Envirocare, who has verified our lifecycle and reduction plan emissions. Remaining emissions are offset using credits from projects that sequester carbon like native forest regeneration.

AAK - Enabling chocolate to meet deforestation-free claims

Focus on sustainability has never been as high for consumers as now. Consumer awareness puts producers under pressure to ensure deforestation free end-products in line with consumer expectations. Chocolate manufacturers need to transform all their different ingredient supply chains e.g., plant-based oil blends to achieve a solid deforestation free claim for their consumer products. AAK offers a deforestation free claim for our highly functional ILLEXAO™ SC 70 that is a plant-based ingredient going into chocolate and confectionery. Customers and consumers don't need to make the choice for sustainability standards, as the solution provided by AAK will be certified deforestation free.

Finalists nominated for the 6th Fi Global Startup Innovation Challenge:

Category 1: Most Innovative Plant-Based or Alternative Ingredient

Sophie's BioNutrients (The Netherlands/Singapore) for developing a new and sustainable plant-based protein from microalgae **(Winner)**

Moolec Science (UK) for producing real animal proteins in plants to develop affordable, animal-free ingredients

SACCHA (Germany) for extracting proteins from microorganisms such as brewer's yeast that are like egg protein, only without the egg, allowing manufacturers to create authentic alternatives to animal products

Time-travelling Milkman (The Netherlands) for producing and distributing plant-based fat components for creamier, healthier, and more sustainable plant-based products

Update Foods (France) for producing the next generation of alternative dairy powered by algae and faba protein

Category 2: Most Innovative F&B Ingredient or Processing Technology

NoPalm Ingredients (The Netherlands) for replacing palm oil as an ingredient in food, cosmetics, and detergents to reduce carbon emissions, and save tropical rainforests **(Winner)**

California Cultured (USA) for growing non-GMO chocolate from cocoa stem cells via cell culture technology and, therefore, producing chocolate that is not affected by deforestation or exploitation of farmers

Eighth Day Foods (Australia) for enabling food manufacturers to produce pioneering, premium, plant-based products under their own trusted brands

Hoow Foods Pte Ltd (Singapore) for promoting healthy living through improved nutrition by using deep insights of foods and ingredients to create sustainable and healthier foods

Umami Meats (Singapore) for producing delicious, nutritious, and healthy cultivated fish that promote the future of sustainable seafood

Category 3: Most Innovative Service or Technology Supporting F&B

Allozymes (Singapore) for applying its proprietary platform technology to rapidly develop novel enzymes, revolutionising the way industry can produce complex natural products **(Winner)**

Mi Terro (USA) for its unique approach to use Big Data to develop compostable, alternative, single-use plastic packaging from plant-based agricultural waste

Ambrosia.bio (Israel) for its proprietary, breakthrough enzyme technology platform that converts high-calorie sugars found in natural juices into virtually calorie-free sugars, such as allulose.

Top 10 Trends by Innova Market Insights

1. Shared Planet

Joint responsibility: trust and transparency are key to building a product life story that stands up to scrutiny

2. Plant-based: the canvas for innovation

Nutrition and sustainability play a bigger role as brands refine the next generation of plant-based food

3. Tech to table

Technological advances have created serious innovation opportunities for the entire food and beverage industry

4. Shifting occasions

The pandemic reshaped existing eating occasions and helps for new ones

5. Voice of the consumer

Consumers are calling the shots and expecting more engagement from brands

6. Gut glory

The microbiome has the potential to be a game changer in how consumers manage their health

7. Back to the roots

Consumers increasingly value the functionality, freshness, and authenticity of local food.

8. Amplified experiences

Accelerated by the pandemic, consumers are hungry for new food and beverages experiences

9. Upcycling redefined

Ingredients which were once considered waste are being given a new lease of life in circular economy

10. My food, my Brand

Food choices are now signals of entire lifestyles as personal values intertwine with purchasing decision.

Trends

1. Plant-based

There is a consensus on the value of reducing the consumption of animal products and more and more consumers are going flexitarians for healthy reasons (risks of cancer & CVD from meat consumption), for sustainable reasons (fishing and preservation of marine ecosystems, livestock is responsible of 14.5% of global greenhouse gas emissions), or to support animal welfare (60 billion animals killed for their meat in 2016, 110 billion expected in 2050)

Driven by the vegan, the vegetarians and mainly flexitarians, the plant products market is expected to reach \$480.43 billion by 2024 (13.82% annual growth between 2019 and 2024) (Source : BIS Research).

The weaknesses of the plant-based alternative trends remain the taste, the fact that the products are not clean label and the fact that consumers doubt that they are more sustainable than their animal-based counterpart.

Moreover, in the US, the market of plant-based meat has decreased in 2021 for the first time

Thus, it seems that the world is not turning totally vegan but there is a new balance between animal and plant-based products.

For the consumer who wants to enjoy the experience of eating meat, without eating meat, a lot of alternative options are available. Global meat substitute launches with a vegan claim, for instance, are experiencing an average annual growth of +20% (CAGR 2015-2019) and there is also more variety in products such as fish alternatives, deli meats and ready meal options. Besides soy - the top plant base for meat substitutes - other bases are increasingly used such as jackfruit, pea or faba bean. Here are some innovative solutions found at the FIE.

- **Friesland Campina – Plantaris**

Plantaris™ Pea Isolate 85 A is an ideal solution for ready-to-drink applications. It has a neutral taste and a smooth mouthfeel. Plus, it is high in protein and high in leucine in a compact format. natalie.meijers@frieslandcampina.com

- **Avebe – Potato protein**

Plant-based solution based on potatoes that meets the rich, creamy, and smooth textures from dairy desserts to firm, elastic, and stretchy cheese. Starting from liquid to hard block cheeses and everything in between, with an attractive clean label, that fits both the consumer demand and your processing equipment. Benefit from Avebe's technical know-how and support and explore our plant-based solution for your products. Jeanette.bos@avebe.com

- **Hi-Food – Veganeez**

A range of functional bases, in powder form, able to create cold-processed, stable, and high-quality emulsions. With Veganeez the production of the sauce/dressing occurs through a cold process, allowing cost savings and preserving nutritional values of the ingredients. Furthermore, Veganeez are made of a few ingredients of natural origin and free of chemicals, so sauces and dressings are fully clean label. Veganeez S is suitable for creamy, rich, and thick plant-based sauces (e.g., mayonnaise, mustard etc) and Veganeez D is suitable for fluid, silky plant-based dressings (e.g., caesar, herb, tzatziki etc). Manufacturing process is easy to be scaled on an industrial line, completely customizable formulation. arianna.ciotti@hifood.it

- **Sancon Costaligure – Pesto made with a plant-based cheese**

A new way of conceiving Vegan Pesto! By utilizing a vegan cheese made from rice sprouts, we created this new recipe that complements our line of vegan pestos. g.corradini@costaligure.it

Sophie's Bionutrients -Sustainable urban protein

New sustainable plant-based protein out of microalgae. We have a proprietary strain of microalgae which can grow in a fermentation tank, be fed on various **food waste**, and could be harvested in **just 3 days**. Our microalgae has 60% of protein which has high quality essential amino acids profile, exceeding WHO requirements for protein products. <https://sophiesbionutrients.com/contact-us/>

Meatless – Plant-based

Meatless is a highly innovative B2B developer and producer of textured plant-based ingredients which are used in the vegetarian and vegan industry and in the meat- and fish processing industry. info@meatless.nl

Moulins de Kleinbettingen - Plant-based products

Les Moulins de Kleinbettingen is a family business with a long tradition in milling. Flours, semolina, and desserts are produced in Luxembourg and sold worldwide. With the help of extrusion technology, products will be manufactured primarily in **vegetable proteins** (vegan and vegetarian meat alternatives). We will produce **dry (TVP) and wet (HME) texturates** based on all sorts of plant proteins. www.mkmoulin.lu

Sunblomm Proteins – Plant-based proteins

Plant-based protein ingredients from sunflowers, characterized by its attractive functionality and sensory properties and it is free from GMO and not subject to allergen labeling. monika.gaelweiler@sunbloom.de

Viridi Foods GMBH – Plant-based

Specialized for plant-based products like proteins, flours and starches, conventional and organic quality from pea, chickpea, and fava bean. www.virid-foods.com

Allmicroalgae – Plant-based solutions from Algae

High-quality plant-based solutions of 100% microalgae directed to the food, beverage, and nutraceutical industry, focused on the growing number of companies looking for nutritionally sustainable plant-based ingredients.
www.allmicroalgae.com

Biospringer - Proteissimo

Springer Proteissimo® 101 from yeast does not bring any off-notes and has a limited impact on the color of baked products thanks to its light beige color.

With a 75% minimum protein content, Springer Proteissimo® 101 from yeast helps bakers to increase protein content with a complete amino acid profile.

Production of Springer Proteissimo® 101 from yeast is not dependent on harvest or seasonality, limiting its carbon footprint and water consumption.

s.dieteren@biospringer.lesaffre.com

Ojah

Ojah B.V. is a company that texturizes plant proteins (soy or pea) by high moisture extrusion processing, resulting in a meat like substitute with that 'bite' and texture.

www.ojah.eu

MartinoRossi Spa (Italy) - Meat Substitute Mix Ragù

A plant-based Bolognese- style sauce mix that is allergen, GMO- and gluten-free.

info@martinorossispa.it

Fiberstar - Citri-Fi

This new citrus fiber works synergistically with other natural ingredients such as canola protein and/or potato protein isolate to create the meat-like texture, hot bite, and firmness while the Citri-Fi 100 line provides the emulsification and juiciness in methylcellulose-free meat substitutes like patties, ground, and sausages.

The Citri-Fi TX20 is E-number free, non-allergenic, gluten-free and non-GMO project certified." info@fiberstar.net

Bioprox

Premium combination of selected lactic acid bacteria and probiotics, designed to process mixes of plant based and animal milks. OPTI BREAKFAST cultures will enable production of clean label indulgent breakfast drink with high health benefits:

- High health benefits thanks to presence of probiotics, plant proteins combined with milk proteins
- Clean label thanks to the use of bioprotective bacteria naturally preserving the product during the shelf life
- Indulgent characteristics thanks to selection of lactic acid bacteria producing high viscosity and creamy flavors

Emsland Group

Empro® E86 F30 is a fine grade, highly soluble and neutral tasting pea protein isolate. This premium pea protein is especially suitable for plant-based dairy applications

such as vegan ice cream, cheese and protein drinks and shakes. (Pea protein isolate >84% protein). pgeers@emsland-group.de

2. Reformulation

The challenge of Clean Label goes far beyond the removal of additives from the list of ingredients. It's about authenticity, traceability, organic, sustainability, animal welfare, minimally processed products, made in a traditional and sustainable way, with familiar ingredients, by real people in full transparency about the origin of the ingredients.

The rise of sanitary crisis, Scientific discoveries of the impact of additives on health, such as the Southampton study in 2007, Media demonization of ingredients and/or additives (palm oil, nitrates, BPA, ...), food apps (Yuka, dietsensor, ...), whistle blower (Foodwatch), labels (Nutri-Score), ... lead to the rise of consumer's awareness. Now Consumers are looking for more natural, simple, and sustainable food.

According to Innova Market Insights, the number of products launches worldwide with a "clean label" claim is increasing by 13% per year. It now represents almost 1/3 of product launches.

While only 37 % of global consumers have heard of the concept of **clean label**, 70 % of consumers say that they are now more attentive to natural claims (FMCG Gurus February 2021) and 63% of European consumers are agree that the fewer ingredients in a grocery product the better (FMCG Gurus 2020).

Find below innovative ingredients that meet the clean label challenge.

- **Griffith foods - Infuso**

Infuso is a customizable, flavored oil that delivers an impressive taste in a single step process with clean label benefits. cchabot@griffithfoods.com

- **Ingredia**

As a clean solution, Promilk® B-Max is a new functional milk protein that enables to remove thickening agents (carrageenan, gelatin etc) in cream cheese for cheesecake for example.

Promilk® B-Max is a clean label texturizing dairy protein, exceeds every other protein in water binding capacities, gel strength. It brings good milky taste and mouth coating. s.lemoine@ingredia.com

- **Sweegen – Bestevia® Rebaudioside M**

Sweegen's Signature Bestevia® Rebaudioside M received approval for use in Europe in summer 2021. Sweegen is the first company to receive the European Food Safety Authority (EFSA) panel's safety status for any steviol glycoside produced by alternative and sustainable technologies. To achieve high purity clean-tasting stevia

leaf sweeteners, Sweegen uses a bioconversion process starting with the stevia leaf. This process enabled Sweegen to obtain the non-GMO Project verification for its Signature Bestevia stevia sweeteners in the U.S. market. sally.aaron@sweegen.com

Biovitec – Color 100

COLOR 100 is an innovative solution for the replacement of nitrite salt in fermented sausages, which comes in addition to the saltpeter (potassium nitrate) and the BIOVITEC maturation cultures traditionally used for fermented sausages. COLOR 100 brings extra security against meat contaminants such as salmonella and listeria.

Zukan - Fosvitae Plus 95%

A soluble fiber from sugar cane that works as a replacement for sugar and polyols while providing functional benefits. Available as liquid and powder, it allows clean labelling as well as sugar and calories reduction in many applications such as dairy, confectionery or pastry. www.zukan.es

JRS Rettenmaier - Citrus fiber

A natural clean label ingredient delivering multiple functional and dietary benefits, obtained from depectinized citrus peels, a by-product of the pectin industry. This E-number-free solution shows high water binding capacity and can replace conventional stabilizers, emulsifiers, and thickening agents in a broad range of foods and beverages.

Cornille - Pradine

A range of refined beef fat. Because of its fatty acids profile, its neutrality in color and smell, this range can easily replace butter, margarine, and palm oil. Pradine can be used in ready meals, sauces, snacking products, cookies, bakery products, frying and cheese preparations.

Cornille

A dehydrated beef protein naturally concentrated at 65%. This soluble protein has functional properties (texturizing, gelling, and emulsifying) and taste by providing a natural aromatic note.

Vinpai - Fibra

The power of algae for 100% natural solutions. 100% clean label ingredients for texturing and stabilization. As a natural preservative, Vin'Fibra is based on the combination of vegetable fibers and seaweed extracts.

3. Health and wellbeing

The link between **food and health** has been widely established by the scientific community.

1/3 of the most **frequent cancers** could be prevented through **nutritional prevention** in developed countries and **1/4** in developing countries (source: WCRF/AICR).

Reducing salt consumption (from 10 to 5 g/d) would reduce the **overall stroke rate** by 23% and the rate of cardiovascular diseases by 17% (WHO Europe, 2011).

A study conducted by the American Tufts University (2019) on 82% of the world's population indicates that 3 million deaths in the world are attributable to a **too low consumption of fruit and vegetables...**

Not to mention the **obesity and diabetes** epidemics affecting the entire planet.

According to a study by FMCG Gurus (2020), consumers' main concerns about the Covid-19 were **their health and well-being** (for 84% of consumers worldwide) and the health of their loved ones (79%).

Among other immunity, stress and sleep management were the main health concerns.

Far from the nutritional dictates of the 2000s, the time has come for a more integrated approach to health.

Consumers are looking for healthier alternatives with nutrient-dense calories instead of No carbs, no sugars, no salt...and no pleasure.

More good fats, less refined sugars (63 % of global consumers are limiting or avoiding sugars), more proteins and fibers, more exercises

With the Covid crisis, healthy indulgence is the new normal!

- **Activ'Inside – Safr'Inside™**

An encapsulated full spectrum sargol saffron extract with a published mechanism of action on serotonin. A preventive acute dosage clinically demonstrated to help manage stressful situation within only 30 minutes, while chronic supplementation decreases daily stress. b.lemaire@activinside.com

HPE Ingredients

A new natural formulation composed of enzymes extracted from snails (cellulase, laminarinase...), fennel, turmeric extracts, and a probiotic strain. The combined action of these ingredients contributes to improve intestinal comfort, relieves the symptoms of irritable bowel syndrome (IBS), and reduces abdominal pain.

Arjuna - Rhuleave®-K

A unique formula that combines the goodness of turmeric, Boswellia and other actives using a patented SPEED™ technology that creates a powerful formula designed to deliver fast pain relief and reduce inflammation in up to 3 hours. It stands as the first natural solution for safe and effective pain management.

connect@arjunanatural.com

• **Evolva – L-Arabinose, a new generation of bioactive sugar, sustainably produced at the highest level of purity**

By producing its L-Arabinose via fermentation rather than extracting it from wood pulp or Arabic gum, Evolva's new-generation L-Arabinose is scalable and highly reproducible, thus unlocking the full potential of the ingredient.

Developed by the Evolva R&D team in Switzerland, L-Arabinose by Evolva is a premium source of L-Arabinose, produced in the EU in accordance with strict food-safety regulations. It has a pleasant profile with no off note. It is 99% pure."

donnaw@evolva.com

• **Abbyss ingredients – Mnemosyss®**

A patented natural ingredient that prevents cognitive decline.

Abbyss demonstrated the efficiency of its natural composition in marine peptides and omega-3 in significant ways:

- Mnemosyss® prevents memory disorders
- Mnemosyss® limits neuroinflammation and facilitates the resolution of inflammation
- Mnemosyss® improves the stress-response and reduces anxiety disorders

On top of that, Mnemosyss® is made from by-products of local fishing actors and through a gentle, solvent-free and eco-friendly water extraction process and responds to the growing demand for natural and eco-responsible products."

claire@abyss-ingredients.com

• **Agrana Starch - AGENACARB**

AGRANA's non sweet soluble complex carbohydrates range provides the sports-nutrition industry as well as infant, clinical and geriatric formulations with a new gluten-free, vegan, reliable and consistent energy supply with lowest sugar content - with the advantages of a NON-GMO and Clean Label product.

It reduces sugar in food systems, where replacement of sugar would normally lead to less body and decreased mouth feel. It avoids common insulin-peak-levels after intake.

The new AGRANA product range gives opportunities in the formulation of sugar reduced food systems giving body to a system, being stable over the entire shelf life, not introducing further significant amounts of mono- & disaccharides.

tatjana.figl_wolfsberger@agrana.com

Polaris

First 100% vegan DHA powder of the market with no fish odor. It contains 200 mg/g of DHA. This microencapsulated solution allows new applications (bars, beverages, ready meals, gummies, chocolate, plant-based alternatives, ...).

Meurens Natural - SIPAPRO OAT

A unique plant-based protein concentrate coming from organic non-GMO oats. It provides a nutritious protein boost to food preparations. SipaPro-Oat has a mild oat

flavor and minimum of 55% of proteins. SipaPro-Oat can be used in different applications, ranging from cereal products to bakery and even sports nutrition.
info@meurensnatural.com

Dr. Paul Lohmann - Magnesium Citrate Malate

A fully reacted Mineral Salt and the smartest solution for highly concentrated RTD liquid food supplements in Europe. It is clear soluble and stable in solution.
C.gabisson@lohmann-selsmineraux.fr

Zukan - Erlim

A 100% natural lemon extract, rich in eriocitrin, flavonoid found in high amounts in lemons. Thanks to a new extraction system, the standardization of eriocitrin provides great solubility and high bioavailability, offering an ingredient with great antioxidant benefits for nutraceutical, pharmaceutical and cosmetic applications.

Friesland Campina - PRO-Digest Bowel

In partnership with Lallemand Health Solutions, they develop PRO-Digest Bowel that combines the prebiotic Biotis™ GOS and the probiotic strain L. paracasei HA-196 for a complementary effect designed to improve the quality of life of adults with digestive issues.

Friesland Campina - Biotis™ GOS

45D is a refreshing highly functional drink with multiple active ingredients, including Nutri Whey™ Isolate Clear and Biotis™ GOS. It's low in calories and highly nutritious. FrieslandCampina Ingredients can partner with you all the way from concept to a wonderfully nutritious product. From grass to glass!

Inlabs - Curocaps

Drinkable food supplement in biodegradable Nespresso®- compatible capsules. The delicious drinks are associated with health in combination with enjoyment and fit seamlessly into your daily routine for a higher therapy adherence. The formulas are also available in private label. Let's have a cup and team up!

Josh Naturals - capZion

Capsanthin softgels for Eye Health, clinically proven to:

- Manages dry eye syndrome
- Manages intraocular pressure (IOP)
- Enhances blue light protection and improves macular pigment optical density (MPOD)
- Relieves digital eye fatigue derived from excessive screen use and poor photostress recovery

Euroserum - SICAPRO 35 - WPC 35 with optimized amino acid profile

EUROSERUM's new WPC 35 provides whey proteins with a high nutritional profile thanks to a fresh milk collection in France and a gentle process ensuring a reduced

content in NPN and absence of GMP. SICAPRO 35 provides an optimized protein profile: bringing all essential amino-acids and a high level of tryptophan.

Nuwen - Seawater concentrate

Seawater concentrate is a French original ingredient which allows the benefit from the properties and quality of French Coasts seawater all around the world. Its richness in marine minerals and trace elements helps to preserve a good cardiometabolic health and vitality.

Algalithe is obtained from a fossilized red macroalgae. Its exclusive mineral composition, consisting of more than 50 minerals and trace elements and its richness in calcium and magnesium, make algalithe an ally of choice to contribute to good digestive, joint and bone health.

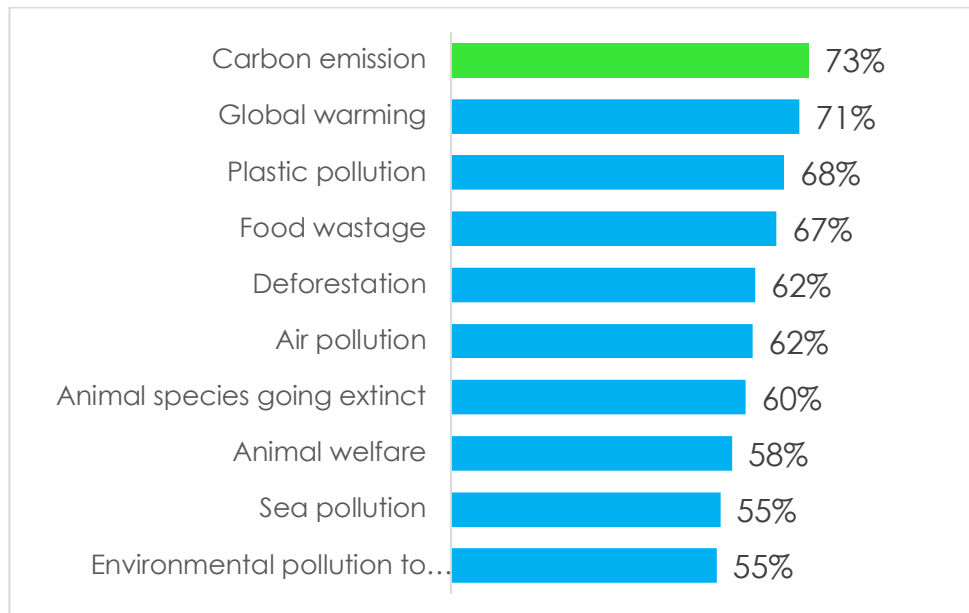
Fonterra - SureStart™ MFGM Lipids

The brain is growing and developing rapidly in the first years of life and optimal nutrition is imperative. Research shows that MFGM (milk fat globule membrane) ingredients have a positive effect on brain development and cognition.

4. Sustainable

The One Health concept means that human health depends on the health of the planet and all what lives on it.

71% of consumers worldwide feel more concerned about environmental issues because of Covid-19 and 47% say they pay more attention to environmental claims (FMCG Gurus 2021). Global warming, CO2 emissions, plastic pollution, food waste, deforestation, air pollution, extinction of animal and/or plant species, marine pollution, ... the list of concerns is if the expectations of consumers towards the food industry are strong.



Proportion of global consumers who say that they are concerned about the following issues. 2021 Top ten issues

• **AlgaPlus – Algaessence**

A unique organic blend powder developed by nutritionists, made of micro and macroalgae, both produced in Portugal (EU) and certified by the European Organic Certification (PT-BIO-03).

The microalgae are produced in an ecologically efficient and controlled system by Allmicroalgae and the macroalgae are sustainably farmed in a land-based integrated aquaculture system by ALGApus, under the concept of a circular blue economy. Rich in protein, dietary fibre, vitamin B12, ALA (Omega-3), iodine, iron, magnesium and with low saturated fat content, this unique powder blend, is a natural way to promote health and wellness, boost immunity and natural defense.

Also free from soy, lactose, sugar, sweeteners, nuts irradiation, additive, pesticides, fertilizer, or animal ingredients, is the perfect blend to add in milkshakes, juices, soups, sauces, yoghurts, or fruit. ana.ribeiro@algaplus.pt

• **Cashew meetly – Cashewmeetly**

For every cashew nut that is harvested, a completely edible and nutritious cashew apple is thrown away. In Africa alone, 16 million tons of cashews rot every year in connection with the cashew harvest.

Cashewmeetly consists of a single ingredient, namely 100 percent naturally processed cashew apple. The cashew apple is a so-called fake fruit, which looks like a mixture between a pepper and an apple. Under the cashew apple grows the real fruit, a kidney-shaped stone fruit, which contains the seed that most people recognize as a cashew nut. The cashew apple is low in calories and is a natural source of minerals, iron, phosphorus, calcium, protein, potassium, fiber and carotene, and the cashew apple contains 5 times as much vitamin C as an orange.

Cashewmeetly rests on the idea of a circular, sustainable, and social business model. It takes care of the waste fruit directly from the farmers and then processes it through a special drying process. This creates a nutritious food that in cooking offers a unique, fruity, and slightly sour taste and meaty texture that fits just as well in the slow cooker as in the taco or on the skewer. linnea.falkinger@cashewmeetly.se

- **Musselfeed**

Musselfeed is a young company involved in the valorization of mussel waste through a patented technology that enable to separate flesh from shells and produce 100% mussel powder. jessica@musselfeed.com

- **Tebrito – Mealworm proteins**

Tebrito's unique protein extraction expertise delivers an 88% protein rich ingredient from mealworms. A sustainable alternative protein source with long shelf-life and unique functional properties (odour, flavour and colour free).

Bertrand.giorgi@tebrito.se

- **Fazer – Fazer Xylitol**

A sustainable and innovatively crafted from our own mill's side stream oat hulls, at the same site in Lahti, Finland where our milling takes place. Our raw material is grown in Nordic fields, majority of it in the vicinity of our mill by local farmers. What once was considered food waste or merely used for bioenergy, now makes for unique and responsibly sourced xylitol through our innovation driven production process. mira.steinberg@fazer.com

- **Koboonic – Eri Silk**

A form of sustainable insect-based source of natural food and beverage. Eri Silk Pupae powder is the future of ingredient with its attributes being natural, high protein, clean, and packed full of essential nutrition. admin@koboonic.com

- **Nordic Seafarm - Organic certified sugar kelp**

Grown in the nutritious swedish ocean, the next generation of plant-based products, being one of the most climate-friendly ingredients, brings umami flavor and minerals,

a great potential to use as taste enhancer or nutritional booster in burgers, pesto, or your next innovative product. simon.johansson@nordicseafarm.com

5. Others

Cherry Rocher

Organic licorice infusion with a powerful and characteristic note is made by cold maceration of licorice roots (*Glycyrrhiza Glabra*) in a hydro alcoholic solution. The roots are cultivated without treatment or fertilizer, to guarantee an authentic and certified ORGANIC product (ECOCERT).

Nougat Chabert & Guillot

Peeled hemp seeds, caramelized and coated with cocoa butter, processed into a paste. Hemp comes from sustainable agriculture. It is ideal for flavoring and filling.

Distillerie du Perigord - Organic raisins macerated in organic rum

This preparation is made from organic blond sultanas (N°9), in standard size. The organic sultana grapes are macerated in an organic rum-based preparation which, once osmosis is complete, produces plump, crunchy grapes with an attractive blonde color.

Frey

Crumb is a mixture of milk, sugar and cocoa mass or cocoa butter. The mass is pasteurized, dried, and then ground into a powder. It is predominantly used in chocolate production. Replacing milk powder with Crumb gives milk and white chocolate a unique creamy caramel note.

Eggovo – Ovoderm

A prodigy of nature, an incredibly powerful ingredient science-backed, rich in collagen, hyaluronic acid, and elastin, acting from inside out. A holistic beauty care in one single ingredient. Skin, hair, and nail supplement based on eggshell membrane.

Conclusion

The 2021 edition of the FIE was an unexpected success for several reasons. At the beginning of the show, exhibitors were wondering about the attendance and finally, in everyone's opinion, there were more visitors than expected, all fully qualified and motivated (no "tourists").

Moreover, exhibitors have appreciated the fact of having more time to spend with every visitor, which allows deeper discussions.

Maintaining the show in such a context was brave and we can imagine how tough it must have been to resist to exhibitors 'demands for cancellation. In difficult times, we need to be resilient and we need to be supportive. Show organizers have paid a high price since the beginning of the pandemic with a lot of postponed or cancelled events. At the FIE this year, we have realized how good it feels to meet people for real, how more efficient we are in face-to-face discussions and how well inspired we have been to attend whatever the number of contacts.

Being resilient means catching every business opportunity and, for sure, The FIE was one of them!