

Inside BENEÓ's new pulse plant: pioneering sustainable protein from faba beans

16 May 2025 | News

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As global consumer preferences increasingly shift towards healthier and more sustainable food options, BENEÓ, a leading manufacturer of functional ingredients and part of the Südzucker Group, is enhancing its investment in plant-based nutrition. The company has recently inaugurated a state-of-the-art pulse-processing plant in Obrigheim, Germany, which focuses on faba bean ingredients. This facility not only supports BENEÓ's commitment to promoting sustainable agriculture and nutrition but also demonstrates innovative zero-waste manufacturing practices.

In an exclusive interview with NUFOODS Spectrum, Christian Philippsen, Managing Director at BENEÓ Asia Pacific, shares the vision behind this new plant, the significance of faba beans in the future of food and feed, and how this facility aligns with BENEÓ's broader sustainability strategy. He also discusses the company's dedication to circular production, the crucial role of pulses in the plant-based protein revolution, and the growth opportunities arising in global markets.

What inspired BENEÓ to invest in a pulse-processing plant, and why was Obrigheim selected for this facility?

In 2022, BENEÓ announced its plans to expand into the fast-growing market for sustainably produced plant-based protein ingredients—an investment driven by global consumer trends and the rising demand for environmentally friendly nutrition. Research by HealthFocus International revealed that nearly three in four consumers worldwide believe that a healthy product must benefit both personal well-being and the planet^[1]. This has led many to reduce or replace animal-derived proteins with plant-based alternatives. The market momentum is clear: by 2027, plant proteins are expected to account for 75 per cent of alternative protein ingredient demand, with products in this segment projected to grow at a CAGR of approximately 10 per cent between 2020 and 2027.^[2] Pulses such as the faba bean, in particular, are gaining global popularity, with product launches featuring these ingredients seeing a 20 per cent CAGR from 2016-2021^[3].

Obrigheim was chosen as the site for BENEÓ's new pulse-processing plant for both strategic and operational reasons. The location already houses production facilities for BENEÓ's sugar replacer Isomalt and its smart carbohydrate Palatinose® (isomaltulose), allowing the company to leverage existing infrastructure and operational efficiencies. This move not only supports our commitment to sustainable nutrition but also ensures a scalable and resource-efficient approach to meeting the growing global demand for plant-based proteins.

Could you elaborate on the key sustainable practices integrated into the plant's design and operations?

Sustainability was a cornerstone in the design and development of BENEÓ's new pulse-processing plant. The facility operates entirely on electricity sourced from renewable energy, underscoring our commitment to reducing carbon emissions. To further support energy efficiency, a rooftop photovoltaic system contributes additional power, while waste heat generated during production is repurposed to heat the building, creating a closed-loop energy model. One of the standout features of the plant is its exceptionally low water usage, with pulse processing requiring no water at all, making it remarkably resource-efficient.

In line with our zero-waste philosophy, all raw materials are fully utilised, with by-products channelled into animal feed applications, ensuring nothing goes to waste. Moreover, our choice of pulses is strategic. Not only are they nutritionally valuable, but they also contribute to lower greenhouse gas emissions at the agricultural level, promoting more sustainable farming practices from the ground up.

What makes faba beans a valuable ingredient for food and feed production, and how do they contribute to sustainable agriculture?

Asia Pacific dominates the global plant-based food market, driven by government R&D initiatives and new partnerships between local and international food companies^[4]. These collaborations are accelerating innovation and bringing forward high-quality, nutritious alternatives to meet consumer demand. Pulses like faba beans are emerging as star ingredients in this movement, offering great potential to support healthier diets and more sustainable food systems worldwide. Nutritionally, faba beans are rich in protein and dietary fibre, and provide essential nutrients such as vitamin C, folates, calcium, phosphorus, iron, and zinc. At BENEÓ, we process the faba beans into concentrate with 60% protein content. With its excellent emulsifying properties, faba beans are ideal for plant-based meats, egg-free baked goods, and [dairy alternatives](#).

Additionally, BENEÓ's faba bean protein concentrates allow for full or partial egg-replacement in bakery reformulations, while also retaining similar crumb structure and firmness, as well as taste. This versatility makes them ideal to be used in a diverse range of [recipes](#) from muffins and cereal bars, to cakes and meringues.

Beyond nutrition, faba beans play a powerful role in sustainable agriculture. As nitrogen-fixing plants, they enrich the soil by providing nitrogen for themselves and future crops, reducing the need for synthetic fertilisers and enhancing long-term soil health. The cultivation of our faba beans meets the Farm Sustainability Assessment (FSA) Gold Level, reflecting responsible agricultural practices. Moreover, our zero-waste, circular model allows us to fully valorise faba beans while contributing to more resilient and sustainable food systems.

How does this new facility align with BENEÓ's broader strategic goals and long-term sustainability vision within the S&Wdzucker Group?

At BENEÓ, our mission is to connect nutrition and health through functional ingredients derived from natural sources. The launch of our new pulse processing facility is a clear reflection of this purpose, demonstrating our long-term commitment to shaping a future of food that is better not only for people and animals, but also for the planet.

This development is closely aligned with BENEÓ's core sustainability strategy, the [Healthy Planet Plan](#), which guides our efforts across four key pillars: supporting resilient farming and supply chains, caring for people, mitigating our environmental impact, and fostering health, nutrition, and well-being. As part of the S&Wdzucker Group, this approach is embedded in the [broader corporate sustainability vision of 'Growing in Balance.'](#) To further our transparency and engagement, we've also launched a dedicated sustainability webpage that provides deeper insight into our goals, milestones, and impact areas, helping stakeholders understand how we're working toward a healthier future for all.

Could you provide more details on the plant's zero-waste approach and how all raw materials are fully utilised across food and animal feed applications?

At BENEÓ's new pulse processing facility, we embrace a zero-waste approach that ensures all parts of the faba bean are fully utilised across food and animal feed applications. This is central to our commitment to sustainability and responsible resource management.

After processing the faba beans, two fractions are obtained: one is composed mainly of the fine particles that are rich in protein, resulting in our *protein concentrate*, with approximately 60% protein content. It offers excellent solubility and emulsifying properties. It's ideal for protein enrichment in products ranging from sports nutrition to plant-based meat and dairy alternatives. It also serves as a functional ingredient in bakery applications by partially or fully replacing eggs without compromising on texture or taste.

The second fraction consists mainly of the coarser particles, richer in carbohydrates. The *starch-rich flour* is still naturally high in protein (around 20%) and brings good thickening and binding qualities. It can be used to enhance protein content and improve texture in both plant-based products and gluten-free bakery items.

By manufacturing faba bean protein concentrate, starch-rich flour, and hulls, the crop will be fully used and completely valorised for functional ingredients to serve both the food and feed sectors.

What opportunities do you foresee for pulse-based ingredients in the European and global markets, and how will this plant enable BENEÓ to address these trends?

Working closely with food and beverage manufacturers, BENEÓ sees strong and sustained growth potential for pulse-based ingredients across both European and global markets. The rising consumer interest in alternative proteins is being driven by heightened awareness around health, environmental sustainability, and the ethical implications of animal agriculture.

In Europe, the shift toward more flexible, plant-forward diets is gaining momentum. As of 2023, 27 per cent of European consumers identify as flexitarians^[5], with over half (51 per cent) actively reducing their meat consumption, up from 46 per cent in 2021^[6]. Health remains the leading driver for this trend (47 per cent), followed by concerns over animal welfare (29 per cent) and environmental impact (26 per cent)^[7]. However, while many consumers aim to reduce meat, they are not willing to compromise on taste or texture.

This is where BENEÓ's new pulse-processing plant plays a key role. The facility enables us to meet the demand for high-quality, functional ingredients such as faba bean protein and flour, which are well-suited for enhancing the texture, mouthfeel, and nutritional profile of plant-based meat and dairy alternatives. By supporting manufacturers in delivering indulgent yet nutritious plant-based offerings, we help bridge the gap between consumer expectations and more sustainable food innovation.

^[1] HealthFocus International Global Sustainability Report 2022

^[2] Ebner Stolz Management Consultants GmbH (September 2021)

^[3] Mintel GNPD, global search for fava bean flour and proteins in the categories: snacks, bakery, breakfast cereals, dairy and meat substitutes, date of search: 22/12/2021

^[4] Research and Markets – Global Plant-Based Food Market (by Type, Distribution Channel, & Region): Insights and Forecast with Potential Impact of COVID-19 (2022-2027)

^[5] GFI Europe. European consumer insights on the alternative protein sector (July 2024)

^[6] GFI Europe. European consumer insights on the alternative protein sector (July 2024)

^[7] GFI Europe. European consumer insights on the alternative protein sector (July 2024)

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