

# Empowering high-protein dairy frenzy – sustainably

In recent years, high-protein yogurt has seen substantial growth. Research shows that 78% of global consumers consider 'high in protein' to be important in a nutritious diet, and dairy is a natural place to look: Rich in essential amino acids (protein building blocks), easily digestible and consumed globally.\*

The dairy industry plays a pivotal role in supplying nourishing products to billions of people. It is actively addressing the challenges of CO<sub>2</sub> emissions, transforming dairy farming and production practices. At Novonesis, we take pride in supporting this goal by developing sustainable biology-based solutions that ensure we minimize food waste and thus reduce the CO<sub>2</sub> footprint. This offers a path towards a more eco-friendly future for the dairy sector as well as a healthier planet.

## Hitting the sweet spot between healthy and tasty

Close to half (49%\*) believe they will focus more on high-protein in their diet, and one of the world's largest dairy companies reports that protein has been the main growth driver for the entire yogurt category since the start of 2024\*\*.

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The escalating interest in high-protein yogurts, including plant-based alternatives, is rooted in the broader health consciousness that has permeated modern lifestyles. With clean label, low sugar and high-protein products like Skyr, Greek and drinkable yogurts have hit the sweet spot between healthy and tasty. As consumers are becoming more aware of their diet's impact on overall well-being, they are looking for products that align with their health goals. This represents a fundamental change in how we perceive food, with an emphasis on nourishment and vitality.

High-protein yogurt caters to a wide array of needs, from proactive health like fitness and performance, to reactive health, like weight management and wellness. These needs are not only relevant across all life stages, but also across multiple types of lifestyle.

### The power of protein

Proteins are indispensable for maintaining health and the body's numerous physiological processes, including building, preserving, and fixing muscles. The Recommended Dietary Allowance (RDA) for protein is approximately 0.8 grams per kilogram of body weight, but many may need more depending on their personal situation.

High-protein yogurt typically contains 10 to 20 grams of protein per serving, significantly more than the 5 to 8 grams in regular yogurt. Also, dairy protein includes all nine essential amino acids that the human body cannot produce by itself.

Gone are the days of chalky, flavorless protein supplements disguised as yogurt. Today's offerings boast a creamy texture and a wide flavor palette, making high-protein yogurt a consumer darling for its versatility and ability to provide nourishment throughout the day: A filling breakfast, a satisfying in-between meal or a convenient snack on the go – even offering healthier, protein-packed and sugar-reduced dessert options in both spoonable and drinkable versions.

### Solving industry challenges

However, creating high-protein yogurt with the right taste and texture is a technological challenge, and the food industry relies on innovative partners for product development. Novonesis has addressed this by leveraging advanced research and biotechnological advancements to create specific cultures and enzymes that deliver superior taste, texture, yield, consistency and improve the nutritional profile of high-protein yogurt.

These factors are significantly influenced by the pH (acidity) level, so **pH stability** is a key feature to control ensuring that the yogurt does not keep on souring during shelf life. It is also critical for striking the perfect sweet and sour balance in dessert type yogurts with reduced sugar, providing the optimal environment for 'brown flavors' of chocolate, caramel and coffee.

\* Source: Health study conducted in ten major countries, Novonesis proprietary consumer research by Norstat, Nov/Dec 2023  
\*\* Source: Danone talks high-protein dairy strategy (dairyreporter.com)

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Combinations of **very stable yogurt cultures** and cultures with fermentation-enabled **bioprotective properties** keeping yeast and mold at bay constitute an ideal solution for yogurt that tastes great until the end of shelf life, minimizing waste and reducing CO<sub>2</sub> footprint.



Other examples include combos brought about by **fortified high-protein technology** through cocreation with industry peers. Combining functional protein with cultures and enzymes from the Novonesis innovation platform enables dairies to make high-protein, good tasting yoghurt with high smoothness without grains, which has so far been a main challenge for this technology.

Specific biosolutions are also being developed for the evolving high-protein **drinkable yogurt** category, solving challenges such as sandiness, sedimentation and graininess.

The inclusion of **probiotics** in high-protein yogurt hits the mark as a perfect match, seamlessly combining the nutritional benefits of both to support digestive health and overall well-being.

These are just a few examples of biosolutions that cater to the growing demand for high-protein foods while supporting the green transition through more efficient use of resources. As consumers continue to prioritize healthy choices, the collaboration between the food industry and its partners is driving innovation and new product development, representing significant future opportunities.

### Novel proteins for the future

Due to the future needs of protein, we will need all protein sources in play to feed a growing population within the boundaries of our planet. At Novonesis, we have the biological toolbox and innovation capabilities to contribute to a future where novel proteins also play an important part in feeding a growing population. We are currently working on a project, in a consortium with the Bill & Melinda Gates Foundation and others, to use CO<sub>2</sub> to produce proteins for human consumption.