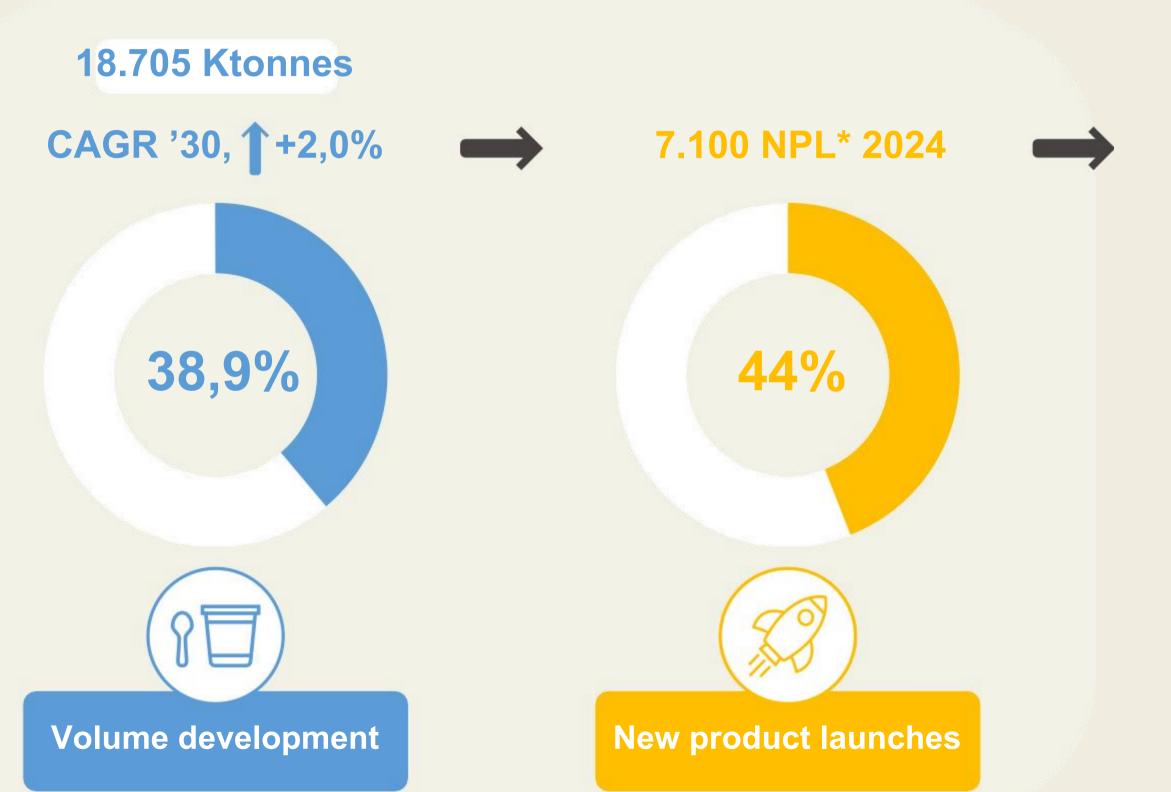


EU leads global spoonable dairy segment | 2025 - 2030 Creamy texture, a top driver for product liking







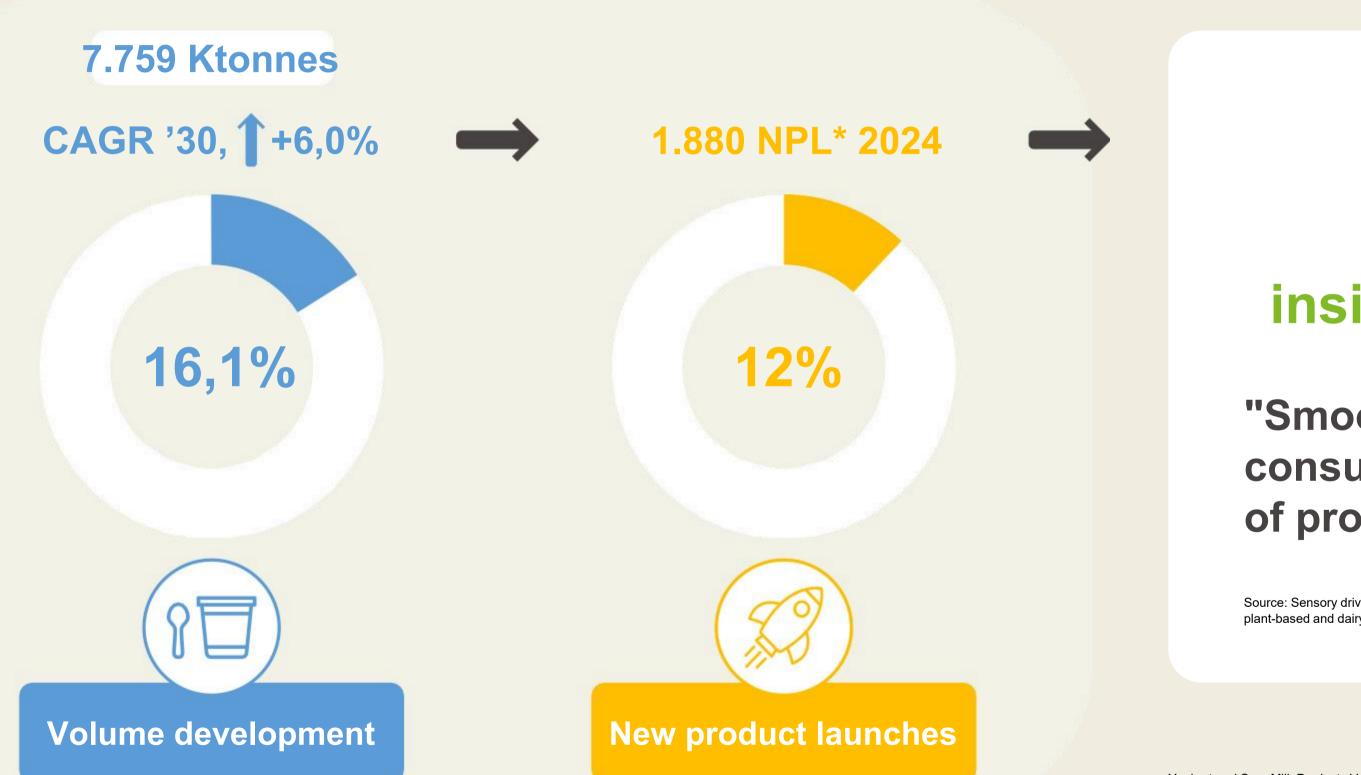
"Smooth & creamy" is a consumer proven driver of product liking.

Source: Sensory drivers of liking, emotions, conceptual and sustainability concepts in plant-based and dairy yoghurts – ScienceDirect

Yoghurt and Sour Milk Products Volume, Chilled and Shelf Stable Desserts, Fromage Frais and Quark Kton and global share | Source: Euromonitor NPL*: New Product Launches in 2024 in dairy (excl milk & cheese) global share

By 2030, the **MEA** region is expected to record the highest growth rate Creamy texture, a top driver for product liking





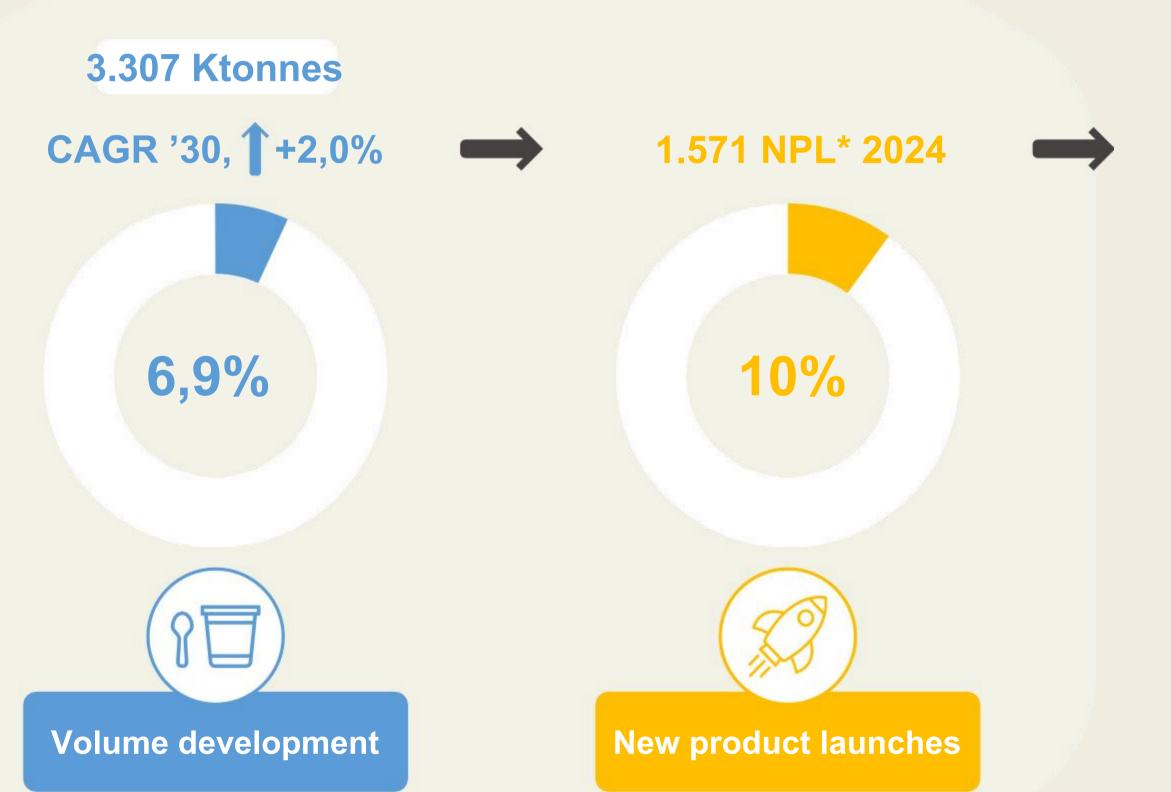


"Smooth & creamy" is a consumer proven driver of product liking.

Source: Sensory drivers of liking, emotions, conceptual and sustainability concepts in plant-based and dairy yoghurts – ScienceDirect

NAM region showed steady growth through 2023 Creamy texture, a top driver for product liking





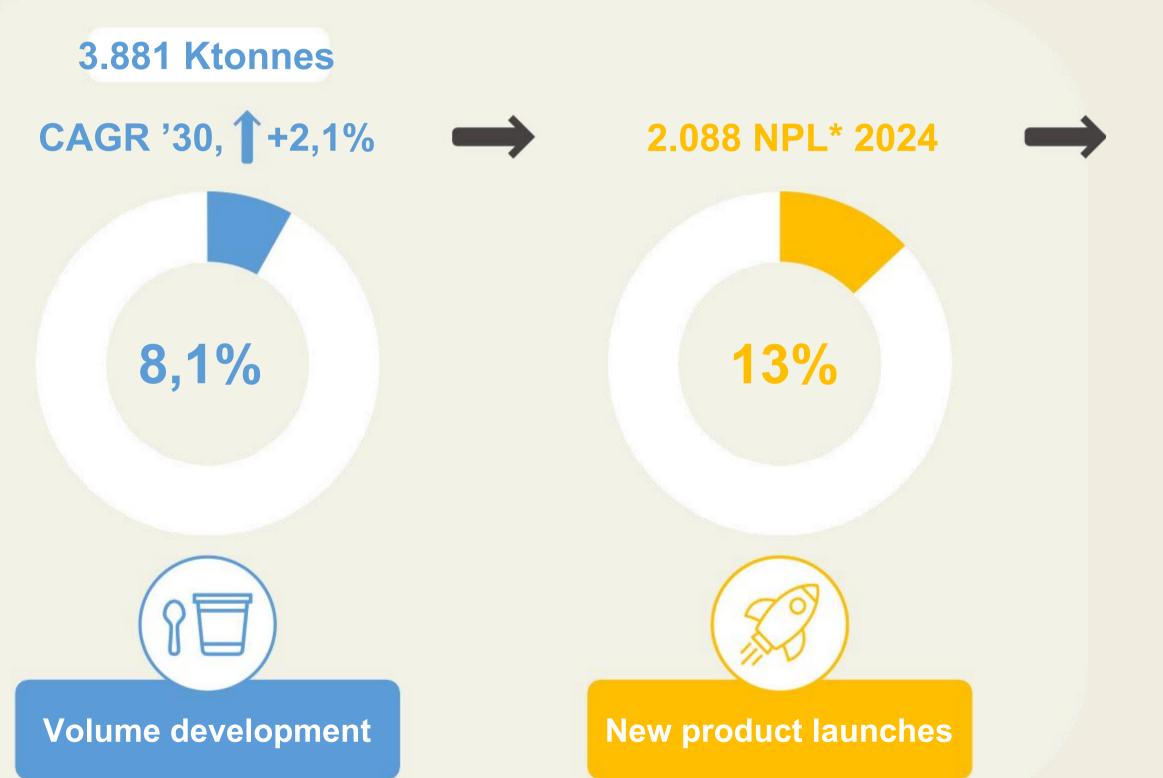


"Smooth & creamy" is a consumer proven driver of product liking.

Source: Sensory drivers of liking, emotions, conceptual and sustainability concepts in plant-based and dairy yoghurts – ScienceDirect

Latin America region showed steady growth through 2023 Creamy texture, a top driver for product liking







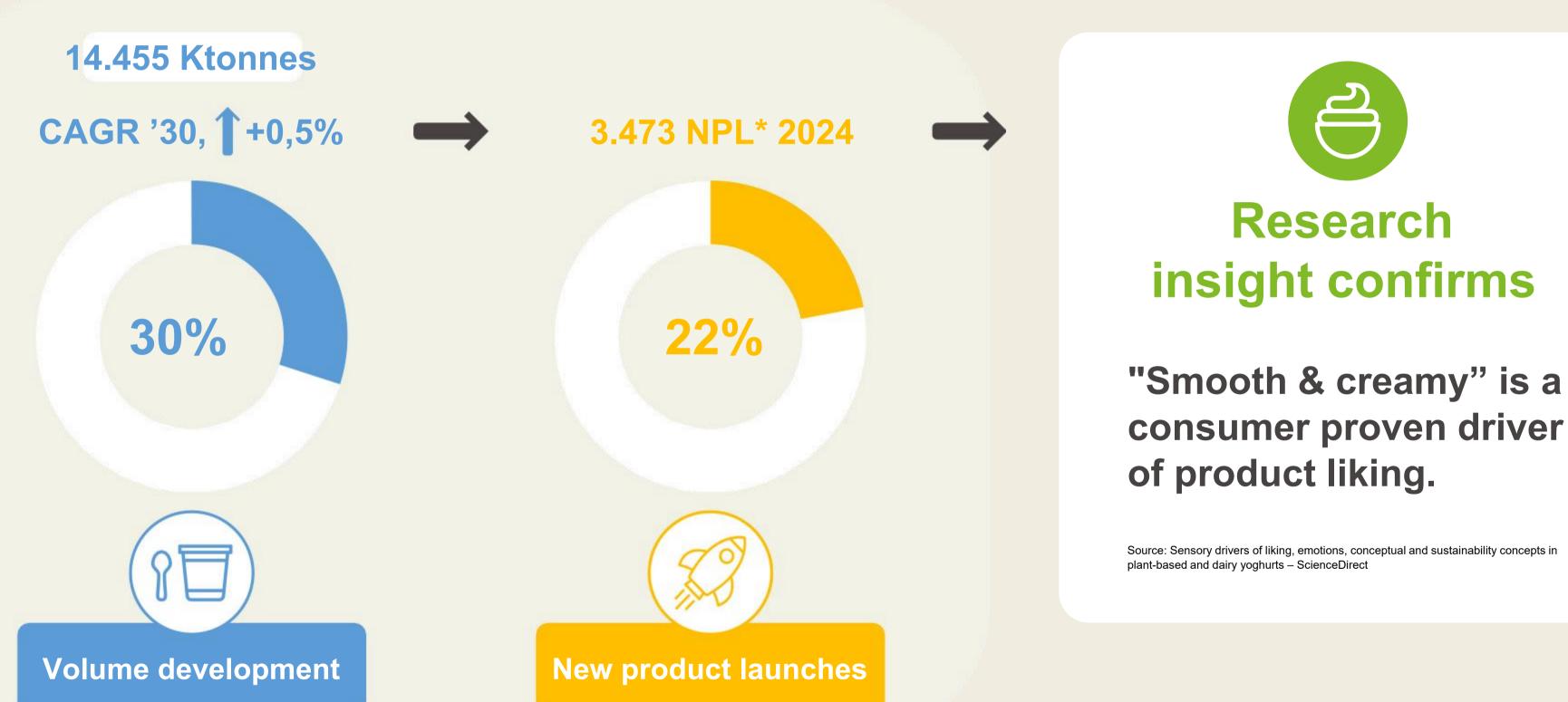
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Asia holds substantial market share in spoonable dairy, remains #2 globally Creamy texture, a top driver for product liking





Yoghurt and Sour Milk Products Volume, Chilled and Shelf Stable Desserts, Fromage Frais and Quark Kton and global share | Source: Euromonitor NPL*: New Product Launches in 2024 in dairy (excl milk & cheese) global share

The global consumer demand for clean label dairy products is clear



22%

Spoonable dairy yoghurt



23%

Fresh & cream cheese





16%

Dairy based ice cream & frozen yoghurt

18%

Soft cheese desserts



Mastering Texture What consumers really want



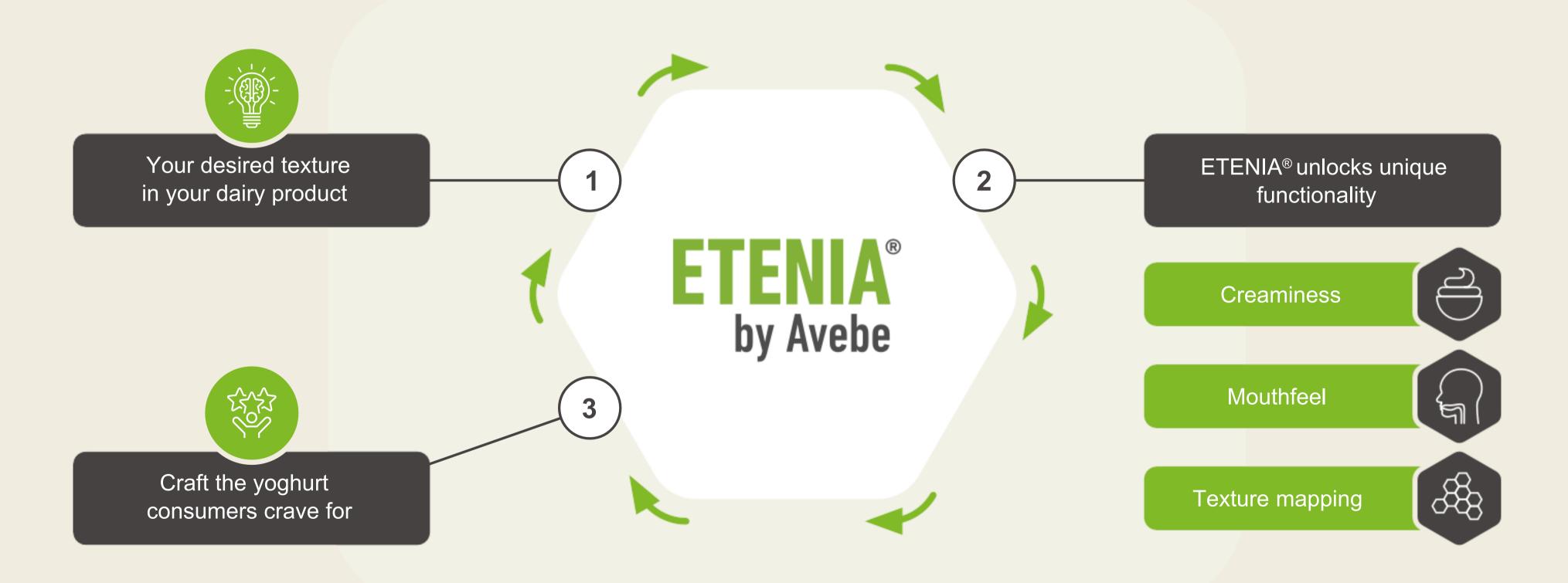


- Consumers seek indulgent and satisfying dairy textures, focusing on **full mouthfeel and creaminess**.
- Manufacturers must meet evolving demands, while ensuring product quality and managing costs.
- Sustainability is a strong trend in dairy, reducing emissions, water and land use.

Mastering Dairy Texture

A framework for manufacturers





Avebe meets the challenge with ETENIA®

Multi-functional, easy dispersable clean label potato starch







ETENIA® is a **unique potato based** multifunctional food texturizer, easy dispersable hydrocolloid alternative, that replaces milk protein or milk fat, **creating the desired creamy texture and smooth mouthfeel** in any kind of dairy application. Neutral taste & colour, label-friendly (clean label & free-from allergen labeling) and cost-efficient (lower dosage than most competing products and easy to process).



Solution for texturizing & gelling.









How ETENIA® Enhances Creaminess



Enhancing Low-fat Greek Yoghurt Beyond the Original



The right balance between

Creaminess

creaminess: creating a rich and indulgent experience without relying on high fat content.

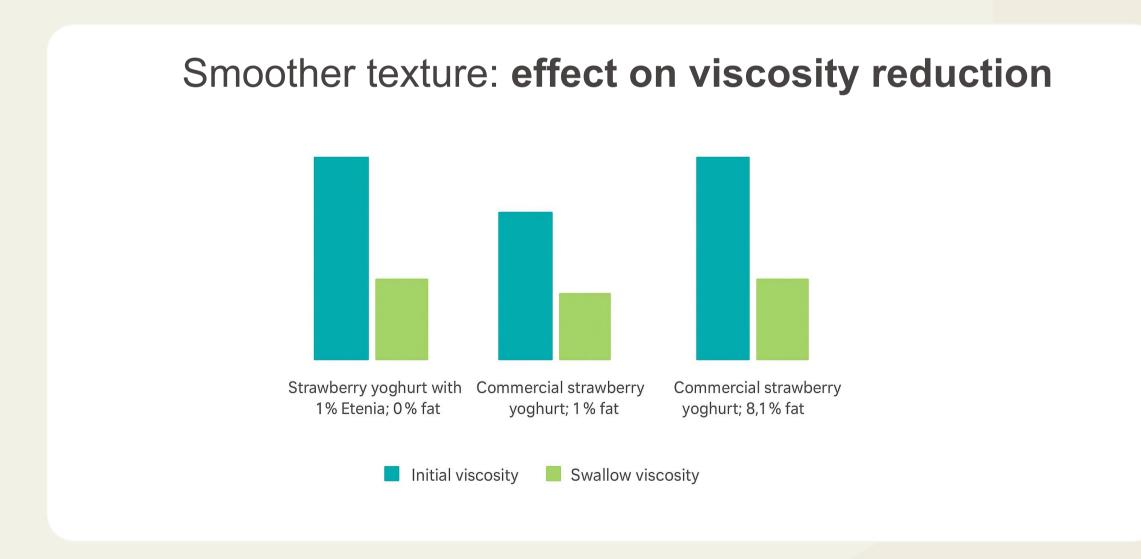
How ETENIA® Enhances Melt-in-Mouth







ETENIA® has unique properties which contribute to a **longer smooth**, **creamy experience** mimicking the indulgence of full-fat dairy.





ETENIA®: Crafting Yoghurt Moments





Appearance

Great whiteness No Syneresis



Experiencing Texture

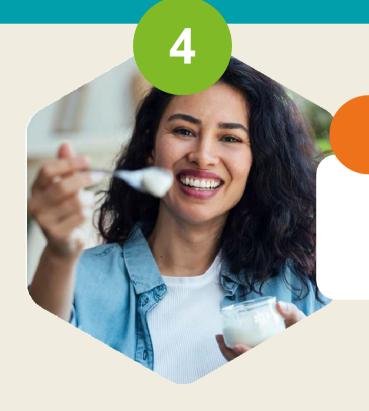
Creamy mouthfeel

Eating experience: the perception of texture



The first scoop

The right firmness and scoop



Up to the last scoop

Indulgence, creamy smoothness

ETENIA®: Universal texturizer for a wide variety dairy applications



Adaptable to process and desired texture









Drinking yoghurt



Yoghurt Set or Stirred



Greek-style



Desserts pudding



Cream/ Fresh
cheese
(no whey separation)
On a yoghurt line



Spreads (from whey)

ETENIA® Dosage (%)

ETENIA®: Provides Cost Efficiency





While provenly maintaining texture and improving sensorial qualities, like creaminess, mouthfeel, including stability of the end-product.

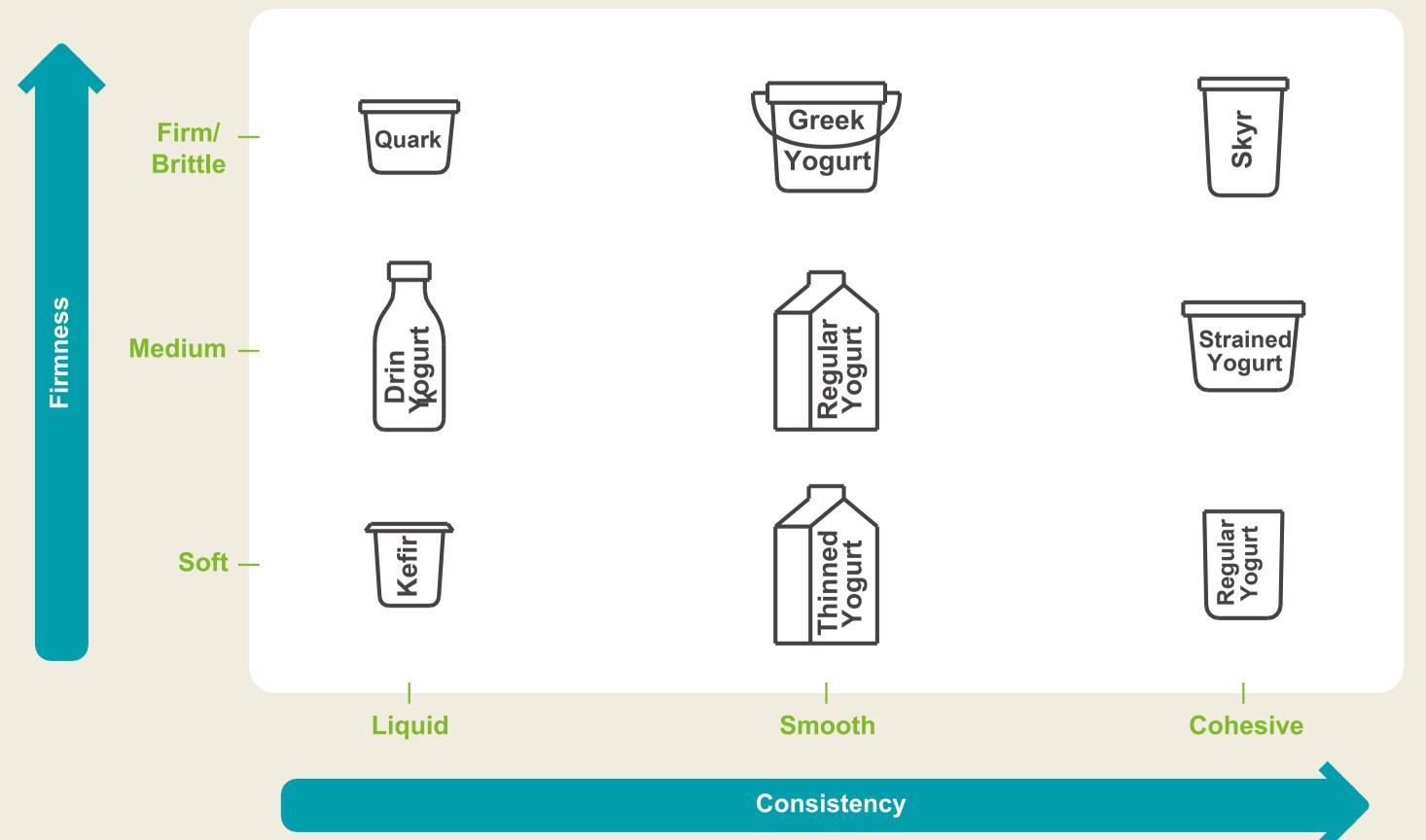
With ETENIA® costs are saved.

1% ETENIA® replaced 3% milk fat
1% ETENIA® replaced 1% milk protein
1% ETENIA® replaced 0,5% gelatin



ETENIA®: Your Ultimate Texture Toolkit



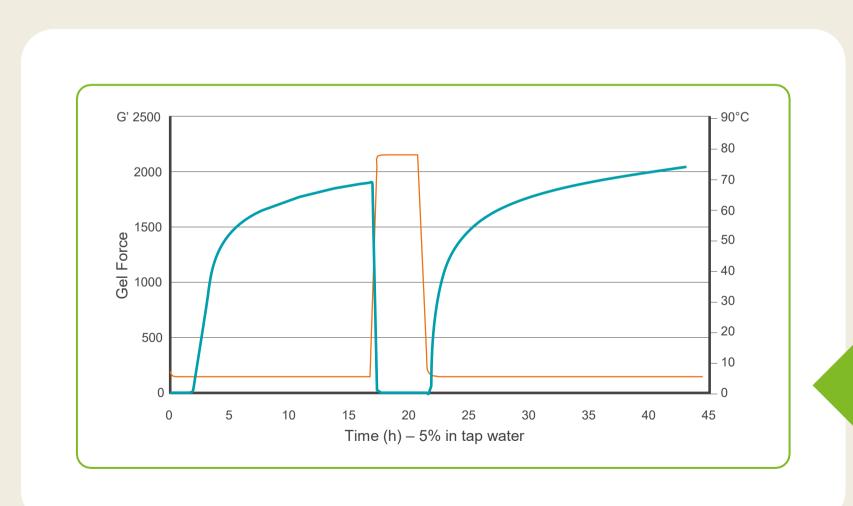


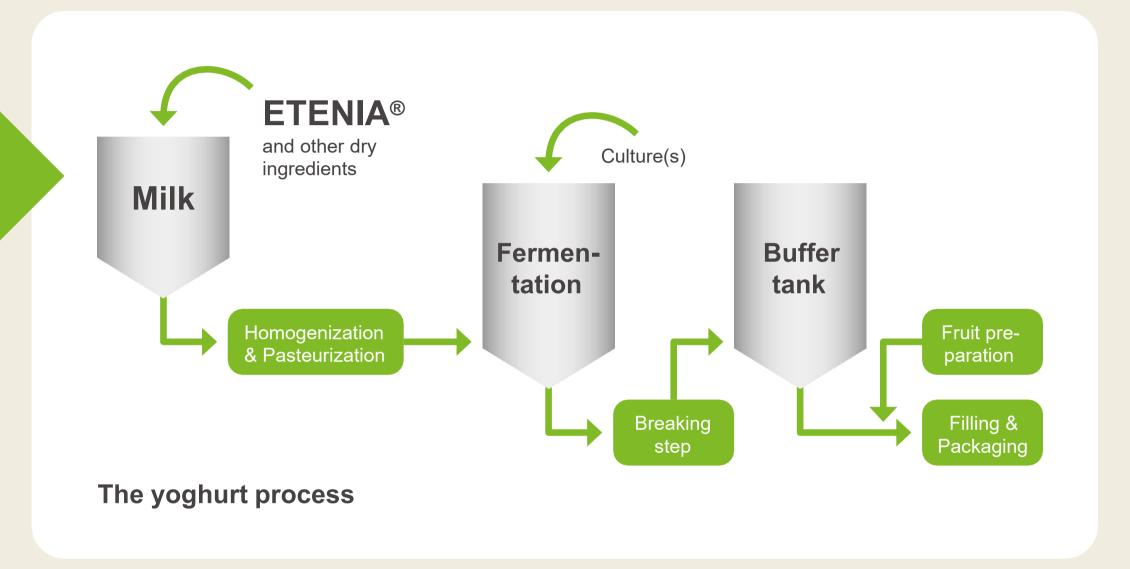
you to control and optimize various texture attributes.
Adapting dosage, ease of preparation and fits in all processes, enabling a wide range of dairy applications.

ETENIA®: Ease of preparation fits in all processes



ETENIA® is highly process tolerant with shear, heat, pressure and pH stability



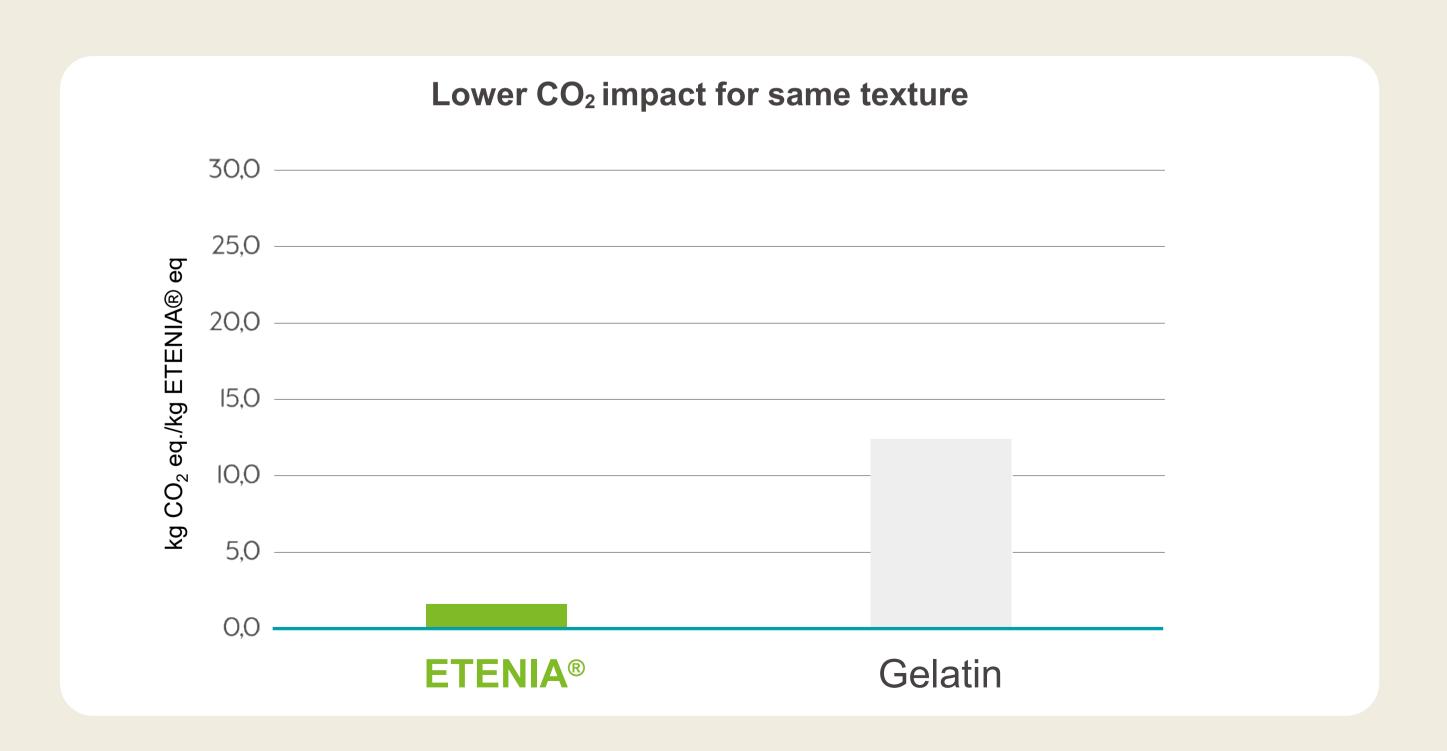


Thermo-reversible at low usage level

ETENIA®: can help reducing carbon footprint by replacing



ETENIA® is significant more sustainable compared to gelatin









Case Studies The ETENIA® Advantage

- Cost effective dairy: Reduce fat while maintaining great taste and creaminess
- Cost effective dairy: Lower your formulation costs with milk protein replacement
- 3. Easy processing with versatile and multifunctional ETENIA®
- 4. Reduce environmental footprint with ETENIA®: the power of potatoes



Cost effective dairy:
Reduce fat while
maintaining great
taste and
creaminess

Solution	Milk fat replacement with ETENIA®
Application	Fruit yoghurt or Greek style yoghurt
Functional Benefit	FAT OST-IN-USE ONABILITY PRINCE MENT ONABILITY PRINCE MENT ONABILITY ONABILITY ONABILITY PRINCE MENT ONABILITY ONABILITY



Challenge

Consumers are increasingly seeking "better-for-you" food options that **reduce fat** content without sacrificing **taste or texture**. Dairy producers need a **cost-effective solution** that can replace **expensive milk fat** while delivering the **full, creamy mouthfeel** and **smooth texture** that consumers expect.

Our Solution

ETENIA® was identified as the ideal clean-label potato starch for this challenge. It provides a unique, multi-functional solution that offers a **1:3 replacement for milk fat,** allowing producers to create indulgent, low-fat or non-fat yogurts that appeal to health-conscious consumers.

- Maintain true indulgence: Achieve a rich, creamy mouthfeel and a smooth, shiny texture, ensuring a guilt-free sensory experience.
- Reduce costs: Gain a major cost advantage by replacing expensive milk fat with a more economical, high-performing ingredient.



Cost effective dairy:
Reduce fat while
maintaining great
taste and
creaminess

Solution Milk fat replacement with ETENIA®

Application Fruit yoghurt or Greek style yoghurt

Functional Benefit







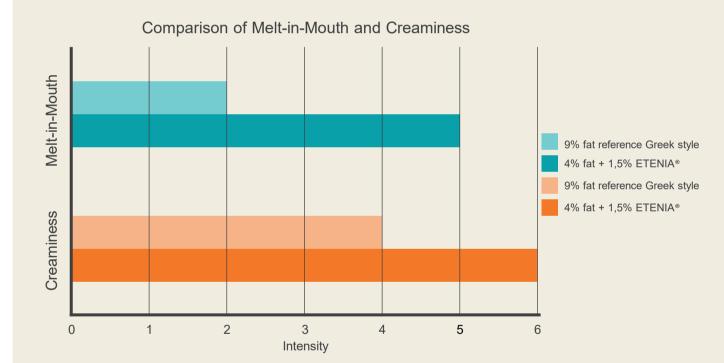


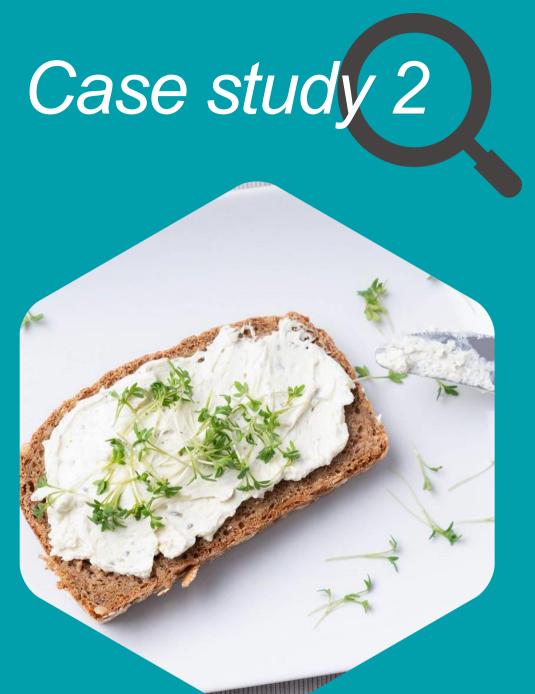


Results & Benefits

The implementation of ETENIA® delivered significant, measurable benefits, proving it is a powerful solution for healthier indulgence.

- Superior creaminess & mouthfeel: The final product maintains a creamy, rich mouthfeel and a "melt in mouth" sensation, with a smooth, shiny texture.
- Improved Stability: The solution prevents syneresis and ensures good consistency during shelf life, even with harsh processing conditions.
- High-Performing Replacement: Achieved a 1% ETENIA® replace 3% milk fat ratio, delivering a substantial reduction in raw material costs while maintaining a premium product quality.





Cost-effective dairy:
Lower your
formulation costs
with milk protein
replacement

Solution	Full whey binding with ETENIA®
Application	Spreadable cheese
Functional Benefit	TEXTURE CLEAN TOST-IN-USE TASTE TASTE



Challenge

Manufacturers seeking to add variety to their product lines are exploring ways to produce fresh cheese via a yogurt process, which also helps to reduce high milk protein costs. In doing so, they face key challenges like maintaining a creamy, smooth texture, ensuring a stable structure to prevent syneresis, and achieving a natural, fresh taste.

Our Solution

ETENIA[®] is the ideal clean-label potato starch to address this challenge. It provides a single, simple solution that offers a **1:1 replacement for milk protein**, allowing producers:

- Reduce Costs: Achieve significant cost savings by replacing expensive protein without compromising on quality.
- Maintain Quality: Deliver a tasty, smooth, spreadable, creamy texture with a functionality that binds all the whey, preventing syneresis and ensuring a stable, high-quality final product.

Case study 2



Cost-effective dairy:
Lower your
formulation costs
with milk protein
replacement

Solution Full whey binding with ETENIA®

Application Spreadable cheese

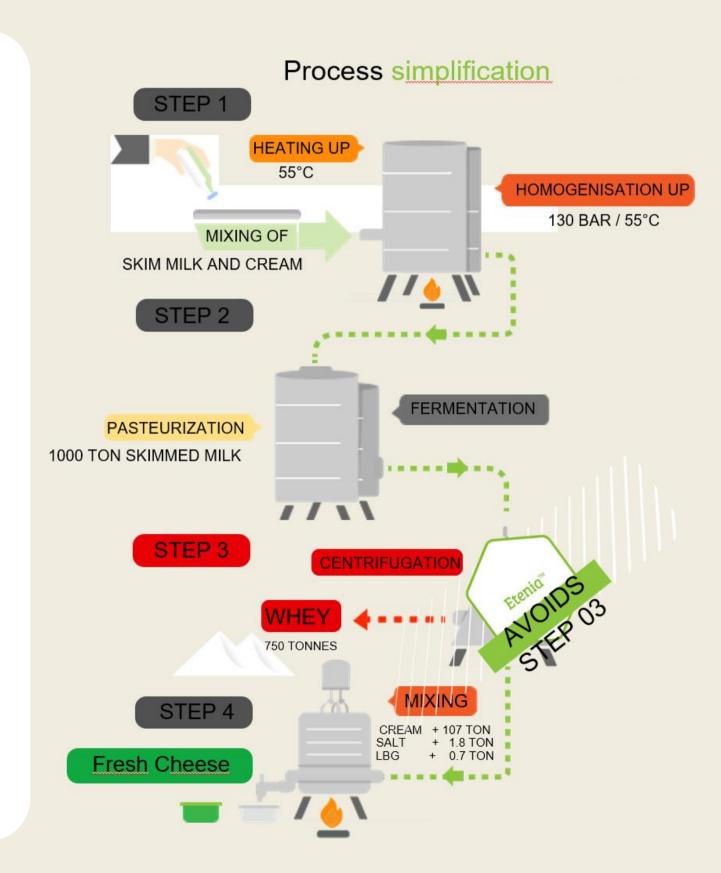
Functional Benefit



Results & Benefits

The implementation of ETENIA® as a protein replacement delivered a number of significant benefits, transforming both the product and the production process.

- ✓ 100% Yield: The solution successfully binds all the whey, allowing for a 100% product yield from the milk. This eliminates the acid whey waste stream, offering a major efficiency and sustainability gain.
- Superior Quality: The final product maintains a creamy, smooth, and spreadable texture with an indulgent taste and no syneresis, ensuring a stable product with excellent consumer appeal.
- Major Cost Savings: By enabling a 1:1 replacement of expensive milk protein, the manufacturer achieved a substantial reduction in raw material costs while maintaining a premium product quality.





Easy processing with versatile and multi-functional ETENIA®

Solution Easy processing with ETENIA®

Application Various dairy applications (e.g., yogurts, spreads)

Functional Benefit



Challenge

The food industry is constantly evolving, and producers must overcome various processing hurdles to stay competitive. Key challenges include **maintaining functionality** when replacing ingredients like protein or fat, ensuring a smooth and **adaptable production process**, and finding a solution that is **stable** and **easy to use** across different product lines.

Our Solution

ETENIA[®] is the new way of texturizing and gelling, designed as a "drop in" solution for easy processing. It helps overcome common production challenges by being:

- Easy to Use: It is easy to disperse, fitting into all existing processes without requiring major adjustments.
- **Stable**: It remains stable under various processing conditions, including heat and shear, ensuring consistent results every time.
- **Flexible**: It provides flexible textures, from drinkable to spoonable to spreadable, all without compromising on quality or functionality.

Case study 3



Easy processing with versatile and multi-functional ETENIA®

Solution Easy processing with ETENIA®

Application Various dairy applications (e.g., yogurts, spreads)

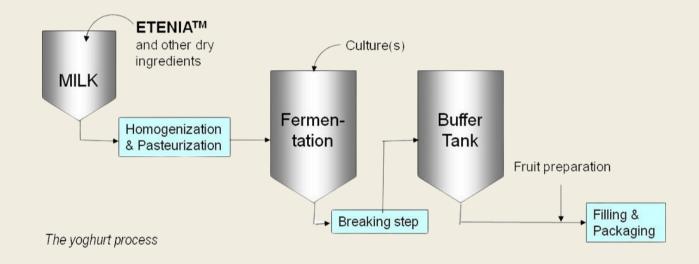
Functional Benefit

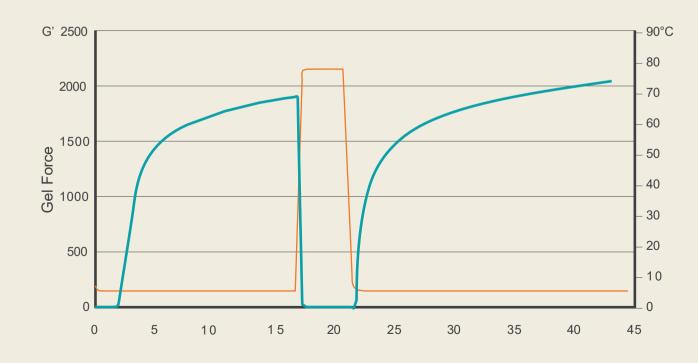


Results & Benefits

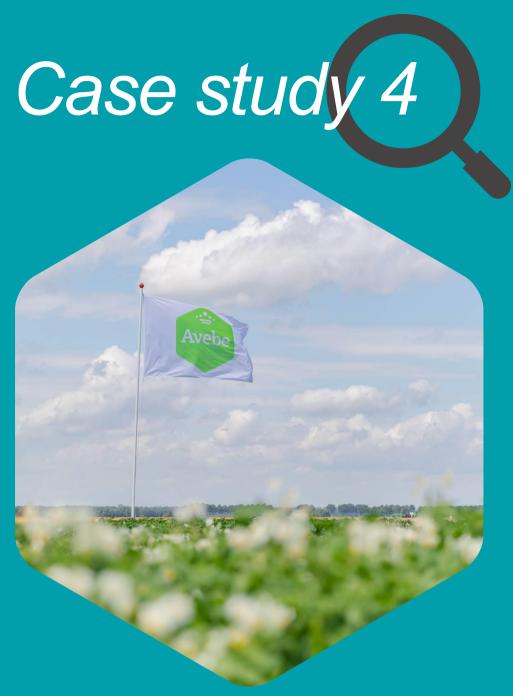
The implementation of ETENIA® delivered significant, measurable benefits by simplifying the production process and ensuring consistent product quality.

- Process Efficiency: As a "drop in" solution, ETENIA® is easily dispersed, is highly process tolerant with shear, heat, pressure and pH stability fitting into existing processes without the need for new equipment or complex adjustments.
- Thermo-reversibility: ETENIA® is thermo-reversible, meaning it is low in viscosity upon heating and forms a gel again upon cooling. This provides crucial flexibility during processing.
- Consistent Performance: The gelatination and gelling properties of ETENIA® are stable under a wide range of processing conditions, ensuring a consistent and reliable final product.

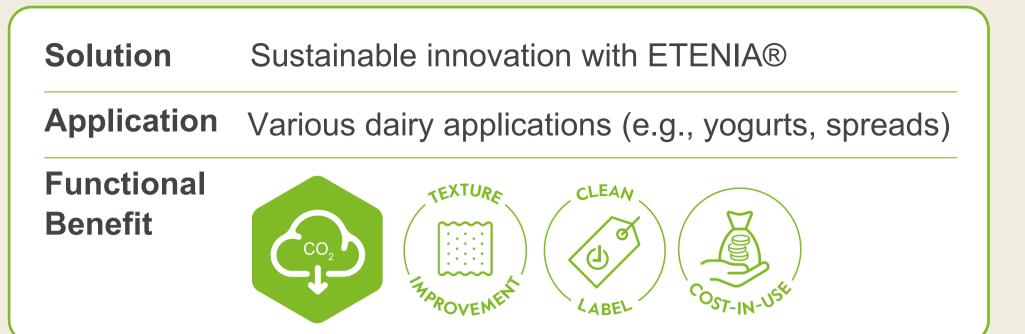




Time (h) -5% in tap water



Reduce environmental footprint with ETENIA®: the power of potatoes





Challenge

The food industry is under increasing pressure to reduce its environmental footprint, which includes a significant share of global greenhouse **gas emissions**, **water consumption**, **and land use**. Food producers need to adopt more **sustainable practices** and find ingredients that can help them meet their environmental goals.

Our Solution

ETENIA® is a solution for sustainable innovation, backed by data. Based on a collaboration with Blonk Consultants, ETENIA® has a better environmental performance than animal protein equivalents. It allows producers to reduce their environmental impact by:

- Lowering Emissions: Helping to reduce the overall carbon footprint.
- Conserving Resources: Requiring less land and water to produce than animal protein.
- Replacing Unsustainable Ingredients: Serving as a sustainable replacement for ingredients like milk protein, fat, gelatin or even modified starches.

Case study 4



Reduce environmental footprint with ETENIA®: the power of potatoes

Solution Sustainable innovation with ETENIA®

Application Various dairy applications (e.g., yogurts, spreads)

Functional Renefit



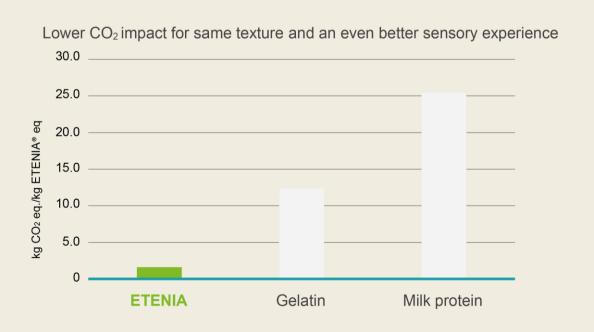
Results & Benefits

The implementation of ETENIA® delivered significant, measurable benefits, proving its value as a truly sustainable ingredient.

- Lower Environmental Impact: ETENIA® has a better environmental performance than animal protein equivalents, leading to a smaller carbon footprint and less land and water use.
- Effective Replacement: As a highperforming replacement for animal-based ingredients like milk protein and gelatin, it helps producers reach their sustainability goals.
- Fact-Based Claims: The environmental benefits are supported by a third-party environmental impact assessment, allowing for confident, fact-based marketing and communication.

ETENIA®: can help reducing carbon footprint by replacing

ETENIA® is significant more sustainable compared to gelatin



ETENIA®: Your Partner for Dairy Innovation





- ETENIA® is not just about replicating existing textures; it's about improving the sensory experience.
- ETENIA® is more than just an ingredient; it's a clean-label, multifunctional dairy texturizer.
- ETENIA® is not just fat or protein replacer; it's cost-efficient with a lower environmental footprint.
- Collaborate with Avebe to explore the endless possibilities of ETENIA® and unlock your texture potential.

What is your texture challenge within dairy?

Work with our experts, connect with us at www.avebe.com or info@avebe.com



