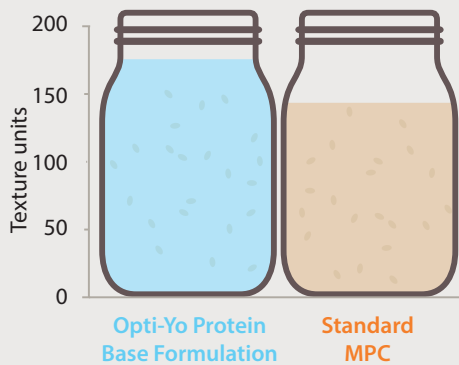


Functional Benefits

Our Opti-Yo Greek-style solution performs exceptionally well to deliver a number of functional benefits.

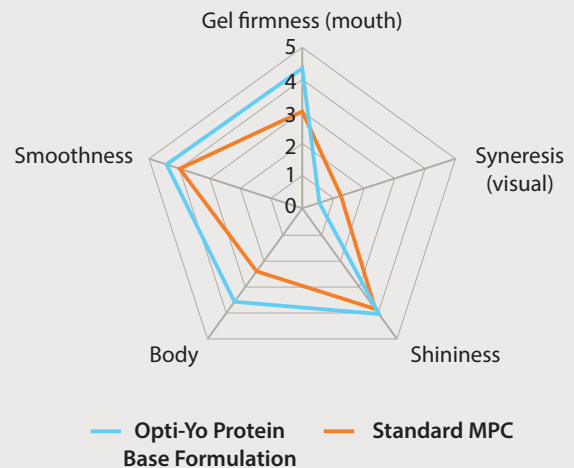
Texture

As with low or non-fat yoghurt, achieving a firm and pleasant texture can be a challenge. Manufactured from fresh ultrafiltered skim milk, our protein base formulation displays superior textural properties over a standard MPC in a high protein Greek-style yoghurt model.



Sensory

A Greek-style yoghurt is perceived as thick, creamy and full bodied. It is important to maintain these perceptions in low/non-fat yoghurt varieties. The addition of Opti-Yo protein base formulation displays fuller body, smoothness and firmness in the mouth, with low levels of visual syneresis, while having an attractive shiny appearance and clean dairy flavour when compared to a standard MPC.



Summary

The increased health awareness associated with the consumption of diets rich in protein has fuelled the consumption of Greek-style yoghurts. The addition of our Opti-Yo protein base formulation has shown:

- ✓ **Firmer texture**
- ✓ **Exceptional sensory characteristics**
- ✓ **Low levels of visual syneresis**

Create great tasting, nutritious yoghurt structures with our unique Opti-Yo solutions range.

Product Range

A range of Opti-Yo innovative yoghurt solutions is available to help you meet consumer demand.

Packaging

- 20kg & bulk bags
- 24-month shelf life

Get in Touch

To find out more about our range of Opti-Yo natural solutions for yoghurt applications, please contact us at Glanbia Ireland.

Email: solutions@glanbia.ie



www.glanbiairelandingredients.com



Glanbia Ingredients Ireland

Information in this bulletin is believed to be accurate and is offered in good faith for the benefit of the customer. However, we cannot assume any guarantee against patent infringement, liabilities or risks involved from the use of these products, formulas and information. The information and/or opinions contained in this document may be changed at any time without notice.

v2 – June 2020



Opti-Yo

Innovative Yoghurt Solutions

A complete range of tailored yoghurt solutions to meet the changing demands of your discerning customers

Let's get technical

Glanbia Ireland

Goodness Grows Here

Glanbia Ireland is an ingredient solutions partner to some of the world's leading companies and brands. At the forefront of ingredient technology, we offer a range of solutions to match the ever-changing demands of the food and nutrition industry and its consumers. With quality dairy and grains sourced from 5,000 Irish family farms, combined with advanced market research and insights, our unique platform offers fully traceable and sustainably produced natural solutions to help our customers stay ahead of the curve.

Meet Consumer Demand with Opti-Yo

- ✓ Increased protein content
- ✓ Low in fat
- ✓ Low lactose
- ✓ Reduced sugar
- ✓ Clean label
- ✓ Natural
- ✓ Purity
- ✓ Indulgence
- ✓ Thick, creamy and full-bodied
- ✓ Firm and pleasant texture

www.glanbiairelandingredients.com

In-House R&D at Your Service



The Innovation Hub

Our Innovation Hub houses world class facilities enabling us to bring our concepts to life



Leading the way in process and technology

Functionalising and developing ingredients whilst always maintaining nutritional integrity



Developed by our experts

Our team of experts passionately researching the worlds of dairy and plant.



Providing superior nutrition

At Glanbia Ireland the foundations of nutrition are built on dairy and plant. Our ethos: "Good for You, Good for the Planet".



Our external ecosystem

Our extensive network of external partners ensures we are agile.

What Your Consumers Say



Thick yoghurt is premium yoghurt

64% of yoghurt/lactobacillus drinks consumers associate a thick texture with a 'premium' yoghurt.



Low fat/high protein

remain the leading positioning claims for premium yoghurts in NPD across developed markets.



'Natural' claims

and those related to non-GMO, free from additives, chemical-free etc. are the main drivers of product selection & consumer perceptions of product purity in Europe for premium yoghurt brands.



High quality

products with sustainability claims are significantly more likely to be considered high quality, natural and coming from a trustworthy brand.



High density protein

products such as Skyr are becoming increasingly popular, meeting global Health & Wellness, Snacking and Personalisation trends.



1 in 4

new spoonable yoghurts in 2018 were described as smooth texture.



Health & wellness trends

specifically sugar reduction, have driven consumption away from flavoured and towards pure or plain yoghurts. Pure yoghurt remains the premium growth space for yoghurt at a macro level.



Trust in small companies

52% of French consumers claim to be more likely to trust smaller yoghurt brands than those from large corporations.

Sources: Mintel; Euromonitor; Innova; FMCG Guru, Global Data

Opti-Yo in Action

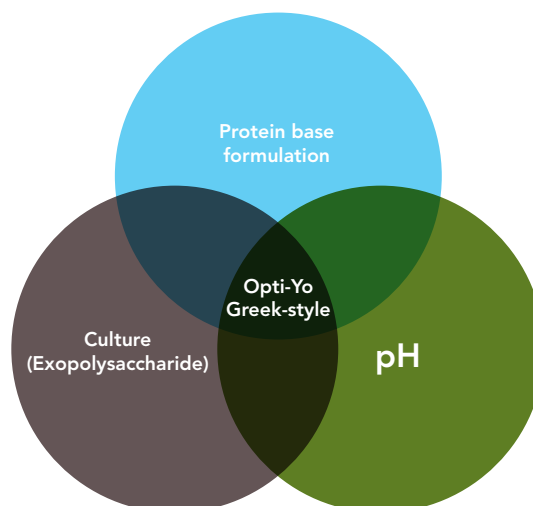
Sample Solution: Superior Greek-style Yoghurt

With our Opti-Yo solution specifically designed for Greek-style yoghurt, you can achieve superior dispersibility and higher bulk density while using your existing processing equipment.

It delivers an excellent clean flavour profile, high nutritional value and is easily reconstituted in milk.



Our Essential Elements for Greek-style Yoghurt



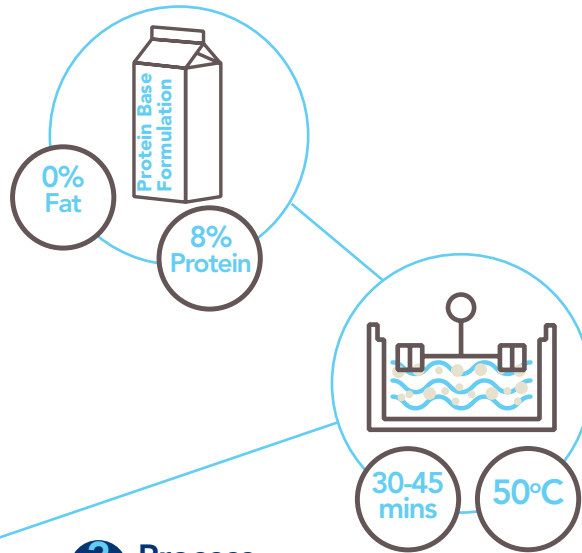
1 Formulation

a) Protein Base Formulation

A key step to manufacture a Greek-style yoghurt is ensuring full hydration of protein powders, which improves texture, can obtain a whiter appearance and reduces the tendency towards syneresis in the resultant Greek-style yoghurt.

b) Optimal Hydration

GI recommends initial high shear mixing on introduction of the protein base formulation to 50°C water, to ensure full dispersion, followed by constant gentle agitation for 30-45 minutes. When hydrating in milk, cold hydration is preferred (4-8°C). In this case, the fortified milk base is recirculated for up to 3 hours.



2 Process

a) Homogenisation

Homogenisation demonstrates a positive effect on MPC hydration through significant reduction in the measured particle size diameter (Fig.1), an essential indicator for full powder hydration. The base is preheated to 60-70°C prior to a homogenisation step (200-250 bar).

b) Heat Treatment

Heat treatment of the fortified milk base reduces risk of whey separation in the end product, and ensures proper texture development by denaturing the whey proteins to add structural matrix and microbial safety. During pasteurisation (92°C x 6 min), the whey proteins denature and interact with the casein fraction, attaching itself to the surface of the casein micelle. This increases the stability of the micelle and forms an insoluble matrix that contributes to yoghurt texture.

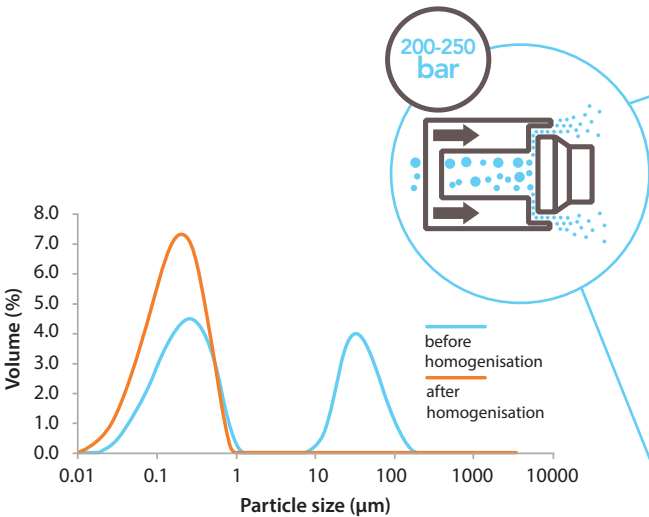


Fig. 1 Homogenisation improves MPC hydration

3 Fermentation

a) Culture Selection

Culture selection influences characteristics such as flavour, texture and appearance of the final product. For production of stirred yoghurt, especially Greek-style, which is desirable to be a thick, creamy yoghurt, a lactic acid bacteria culture that produces high levels of exopolysaccharides (EPS) is recommended.

b) Final pH

Final pH of the coagulum (optimum pH 4.60) is another critical factor affecting resultant yoghurt properties, affecting acidity and firmness of the yoghurt.



4 Post Treatment

a) Dynamic Smoothing

To maintain excellent textural properties, the physical post treatment of the coagulum is important. It is critical to control the speed or smoothing back pressure post fermentation as this can disrupt the gel structure and can affect the final texture and viscosity of the yoghurt.

b) Fill and Storage

Optimum potting of yoghurt is 20-25°C to maintain gel structure and storage at 4°C for shelf life.

