Tap into the trend for Greek-style yoghurt

*Nutrilac® functional milk proteins make it easy and cost-effective for companies to enjoy success in the lucrative Greek yoghurt segment.*

By Torben Jensen & Aleksandra Dzakovic.
ABSTRACT
The demand for healthy, natural Greek yoghurt is booming, but traditional Greek yoghurt is expensive to make and demands specialised production equipment. Arla Foods Ingredients’ Nutrilac® solutions, used in combination with its Quick process, enable manufacturers to make Greek-style yoghurts using their existing lines and without generating the waste associated with traditional Greek yoghurt production.

Clean-label Nutrilac® ingredients are made from finely-tuned functional milk proteins. They provide tailored solutions for a range of high quality Greek-style products, including non fat, low fat, full fat, drinking and long-life yoghurts.

THE MARKET FOR GREEK-STYLE YOGHURT ENJOYS OLYMPIAN GROWTH
The popularity of Greek and Greek-style yoghurts has exploded in the USA over the past five years and similar growth in Europe looks set to follow. Health and wellness is a key driver across dairy in general, and Greek and Greek-style yoghurts score especially well with consumers since they are a good source of protein and other nutrients, including calcium. Greek and Greek-style yoghurts have appeal because they deliver health benefits while maintaining ‘natural’ credentials. They also offer a thick, smooth and creamy texture and taste great.

All of these benefits have helped the Greek yoghurt segment grow from virtually nothing five years ago to account for about a third of the entire yoghurt market in the USA today, according to New Nutrition Business. This is equivalent to about $1.5 billion (€1.2 billion) in annual sales. In Europe, the market is worth €400 million and growing fast, says New Nutrition Business. According to Mintel, meanwhile, 16% of global spoonable yoghurt launches in 2012 were in the Greek and Greek-style segment. This trend looks set to continue: UBS has predicted a further 40% increase in Greek and Greek-style yoghurt sales in the USA over the next year, and growth of 120% over the coming five years.

Taste and naturalness are a huge part of the appeal of Greek and Greek-style yoghurts. But they are also attractive to consumers who are looking to add more high-quality protein to their diets. This includes people who want products that boost satiety and help them manage their weight, as well as sports enthusiasts and ageing consumers who are turning to protein to help build or maintain lean muscle mass.

While standard yoghurts have a typical protein content ranging from 3% to 4%, traditional Greek yoghurts offer between 6% and 10%. Usually, typical Greek-style alternatives cannot quite match this, and offer up to 8% protein content. But Arla Foods Ingredients is now working with manufacturers to boost protein levels up to 10% using its customised Nutrilac® solutions, in combination with the Quick process.
COST IS NO LONGER A BARRIER
Cost has always been a major barrier to manufacturing Greek yoghurt, since it takes three times as much milk to make traditional Greek yoghurt as it does to make standard yoghurt. This is because the conventional Greek yoghurt manufacturing process involves separating liquid whey from the mix to leave mainly solid curds.

However, using Arla Foods Ingredients’ Nutrilac® ingredients with the Quick process means that virtually all the raw material ends up in the finished product, effectively tripling yields to 100% and reducing ongoing operating costs.

Traditional Greek yoghurt production also requires specialised production equipment to carry out the separation, which can be expensive to purchase and install. As a result, making traditional Greek yoghurt has usually been the preserve of specialist producers. But combining Arla Foods Ingredients’ Nutrilac® solutions with the Quick process enables all yoghurt manufacturers to produce Greek-style yoghurts on their existing lines without any upfront investment.

In short, Arla Foods Ingredients’ Nutrilac® ingredients and the Quick process combine to provide a route into the lucrative Greek segment that is fast, straightforward and cost-effective. This makes it easy to create products with an appealing taste and texture that will secure a competitive edge in the market.

NUTRILAC® – A NATURAL APPROACH TO GREEK-STYLE YOGHURT
Crucially, Nutrilac® will not impact on the clean-label credentials of Greek-style products, because Nutrilac® solutions are based entirely on selected natural milk proteins. Manufacturers can declare them on the label as ‘milk protein’, so the final product may be classified as ‘Greek-style yoghurt containing milk protein’.

Nevertheless, Nutrilac® is not a single solution. It is a range of ingredients carefully chosen to generate the precise characteristics that manufacturers are looking for in a Greek yoghurt-style product. These solutions can be used across a wide range of products, as the following table shows:

<table>
<thead>
<tr>
<th>PORTFOLIO OF STANDARD SOLUTIONS</th>
<th>Protein %</th>
<th>Fat %</th>
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<tbody>
<tr>
<td>Non fat Greek-style yoghurt</td>
<td>7.6%</td>
<td>0.3%</td>
</tr>
<tr>
<td>Low fat Greek-style yoghurt</td>
<td>7.5%</td>
<td>2%</td>
</tr>
<tr>
<td>Full fat Greek-style yoghurt</td>
<td>6.7%</td>
<td>10%</td>
</tr>
<tr>
<td>Drinking Greek-style yoghurt</td>
<td>7.5%</td>
<td>2%</td>
</tr>
<tr>
<td>Long-life Greek-style yoghurt</td>
<td>6.0%</td>
<td>2%</td>
</tr>
</tbody>
</table>

In addition to this range of standard Nutrilac® solutions, Arla Foods Ingredients can customise its functional milk proteins to fine-tune the taste, texture, consistency and protein content of Greek-style products, helping food manufacturers achieve precisely the product they wish to.
KEY BENEFITS OF NUTRILAC® SOLUTIONS

- Functional milk proteins preserve clean label credentials
- Uniform ingredients deliver uniform quality
- Flexible solutions meet specific customer requirements
- Yields tripled to virtually 100%

THE QUICK PROCESS – TRANSFORMING THE ECONOMICS OF PRODUCTION

To complement its range of Nutrilac® ingredients, Arla Foods Ingredients has developed the Quick process for manufacturing Greek-style yoghurt.

The Quick process removes the need for the whey separation step associated with traditional Greek yoghurt production lines, enabling manufacturers to produce Greek-style products on existing yoghurt lines without investing in expensive separation equipment.

The Quick process also eliminates virtually all raw material waste from the manufacturing process. In total, all of the skimmed milk that goes into the process ends up in the final product. In traditional Greek yoghurt making, two thirds of the volume of milk used is strained off as whey. This results in increased costs in terms of buying and storing extra milk. It also creates a substantial waste stream that must be handled and treated, leading to higher energy costs and the need for further processing or disposal.

<table>
<thead>
<tr>
<th>TRADITIONAL</th>
<th>QUICK</th>
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<tbody>
<tr>
<td>100 KG MILK 2% FAT</td>
<td>88.7 KG SKIMMED MILK 4.8 KG CREAM 6.5 KG NUTRILAC®</td>
</tr>
<tr>
<td>FERMENTATION</td>
<td>FERMENTATION</td>
</tr>
<tr>
<td>SEPARATION 61 KG ACID WHEY REMOVAL</td>
<td>SMOOTHING</td>
</tr>
<tr>
<td>39 KG END PRODUCT WITH 2% FAT</td>
<td>100 KG END PRODUCT WITH 2% FAT</td>
</tr>
</tbody>
</table>
KEY BENEFITS OF THE QUICK PROCESS

- Maximises yield to 100%
- Reduces production times
- Reduces energy consumption
- Enhances smooth mouthfeel
- Improves texture

EXPERTISE IS THE ADDED INGREDIENT

As a leading supplier of natural milk-based ingredients to the global food industry, Arla Foods Ingredients can help manufacturers quickly tap into the booming market for Greek-style yoghurt products.

Arla Foods Ingredients has the processing expertise to help customers use Nutrilac® solutions to achieve the precise combination of product characteristics they are looking for. Combining the fast and simple Quick process with Nutrilac® functional milk proteins will deliver the highest quality mild, creamy and smooth Greek-style yoghurts – even in non fat or high-protein formulations.

Arla Foods Ingredients’ application specialists are experienced in all types of direct-fermented dairy products. They are ready to help customers improve nutritional profiles, extend shelf life and identify and realise new product development opportunities by varying functional and sensory properties while maintaining product quality. They are especially adept at innovating with varying protein and fat levels.

When food companies work with Arla Foods Ingredients, they can be confident that they have found a supplier that understands their manufacturing hurdles and will help them overcome them.

DELIVERING RESULTS THAT CONSUMERS WILL LOVE

Nutrilac® solutions from Arla Foods Ingredients deliver high-quality results with excellent consumer appeal, even in non fat and low-fat formulations.

Maintaining a rich, smooth and creamy texture can be a challenge in non fat products, but a tailored combination of Nutrilac® ingredients can overcome the obstacles. For example, combining Nutrilac® YO-6424 with Nutrilac® YO-4575 increases the measured firmness of the product compared with the standard market reference. It also results in an enhanced, smooth mouthfeel.
Meanwhile, using Nutrilac® YO-6424 in a low fat Greek-style yoghurt increases the measured firmness compared with the market reference, while also providing a better texture and enhanced, smooth mouthfeel.
**COMPLETE SOLUTIONS FOR GREEK-STYLE PRODUCTS**

Nutrilac® functional milk proteins from Arla Foods Ingredients mean manufacturers can now tap into the trend for Greek-style yoghurts using their existing yoghurt production lines. Combining Nutrilac® ingredients with the Quick process effectively triples the yield from the same amount of raw material and eliminates the need to invest in expensive new processing equipment. This means Nutrilac® solutions deliver superior quality Greek-style products more cost-effectively than ever before.

Naturalness, a high-protein content and taste are all driving the consumer boom in Greek and Greek-style yoghurt. Products manufactured using clean-label Nutrilac® solutions can match up to 10% protein content of traditional Greek yoghurts. No other Greek-style yoghurts on the market today can deliver such high-protein content. Further, Arla Foods Ingredients is currently developing a solution that will offer an even higher protein content in future.

**ABOUT ARLA FOODS INGREDIENTS**

Arla Foods Ingredients is a leading developer and supplier of nutritional and functional milk-based ingredients to the global food industry. The company operates production facilities in Denmark, Sweden, Argentina and Germany, applications centres located in Denmark and Argentina, as well as a worldwide network of sales offices. Arla Foods Ingredients is a subsidiary of Arla Foods, one of Europe’s principle dairy groups.

**FOR MORE INFORMATION**

For more information about this White Paper, or for information about the range of products Arla Foods Ingredients can supply, please contact Aleksandra Dzakovic on email ALDZA@arlafoods.com