

NEWSLETTER



INGREDIENTS

Your Long Term Partner

DAIRY UNIT

Q3 2019

Dear Reader,

Greetings from FSL.

We are pleased to share the Q3 edition of our Dairy Unit newsletter with you.

We continue our focus on health and nutrition in this series and share the health benefits of fiber and their various applications in dairy industry.

We began our health and nutrition focus this year by sharing extensive information about oat beta-glucan, a widely studied and documented dietary fiber known to protect against infections, lower cholesterol, lower blood sugar, reduce stress, help with diabetes, and even naturally prevent the spreading of cancer when consumed in recommended dosages.

This newsletter summarizes the functional benefits of the use of fibers in the dairy industry. Apart from offering multiple health benefits, fiber also greatly contributes to high functionality. Fiber from various sources can be added to dairy products because of its water-holding capacity and its ability to increase the production yield, improve textural properties and structure, and reduce caloric content by acting as a bulking agent.

Fortifying yogurt or dairy products with fiber is a trend of interest for manufacturers who want to create functional foods with health benefits for their consumers in a cost-effective manner.

We will also re-introduce JU 543, a tested and proven solution that meets the demands of still drink manufacturers by improving mouthfeel, providing stabilization and suspension in juices.

As usual, at the end of the newsletter you will find a brief outlook of the dairy commodities market.



DIETARY FIBER ENRICHMENT IN DAIRY PRODUCTS

Due to its multiple health benefits and functional properties, dietary fiber has been widely researched in the last few decades. Several studies reported that consumption of high-fiber yogurt may prevent or reduce obesity, diabetes, cancer, hypercholesterolemia, gastrointestinal disorders, hypertension and many more conditions.

Considering it is now known that a lack of fiber in one's diet can be the cause of many nutrition-associated illnesses, the European Food Safety Authority (EFSA) has been recommending an average daily fiber intake of 25g (EFSA, 2010 European Food Safety Authority (EFSA) (2010). With the availability of a range of functional and nonfunctional fibers, manufacturers today can decide to use them for their health benefits (meaning higher dosage) or functional properties (with an aim to improve the texture and prevent syneresis in their products).

Dietary Fiber can be used in two ways:

- To fulfill dietary needs
- As a texturant

The citrus fibers from Fiberstar sold under the trade name Citri-Fi® are isolated bland fibers which come from citrus fruits like orange and lime. Citrus fiber is made from juice cells, peels, rag or segment membranes, and cores from oranges, lemons, limes, grapefruits, and tangerine. Citrus fiber contains carbohydrates, fiber (total dietary, soluble, and insoluble), protein, and ash. The fibers are polymers of simple sugars and possess very high-water binding capacity. Owing to this property, Citri-Fi® is used as a texturant i.e. to provide firmness and body to the products. Such fibers are commonly used in meat applications like burger patties, sausages, etc. but recently, they are also showing promising results in other food sectors including dairy.

Apart from giving a nice body and texture to the products, Citri-Fi® is a clean label and all-natural additive. The market today is booming with innovation, with new products by various big manufacturers filling up shelf space at a rapid pace. But, with new products come new ingredients, new additives and new E-Numbers. According to the survey conducted by The British Food Journal, more than 43% of consumers do not know what an E-Number indicates while another 47% were able to identify them incorrectly. In the same survey, it was observed that nearly 58% of consumers preferred a product with no E-Number and 48% of them were willing to pay a premium price for the same. The E-Numbers have been a big barrier between a manufacturer and a consumer because this causes a communication gap between the two. Not only are the E-Numbers confusing, but sometimes they could also be very misleading. In order to avoid any confusion, it is always a better idea to avoid mentioning any E-Number on the label. The best way to achieve this is to use all-natural additives like Citri-Fi®.

| BENEFITS OF USING FIBER |

Functional Benefits:

- Provides texture to the product
- Increases water holding capacity
- Prevents syneresis
- Provides rich mouthfeel
- E-Number-free
- All-natural product
- Very low dosage required
- Potential cost saving

Dietary and Health Benefits:

- Helps in regulating bowel movement
- Improves digestion
- Helps against non-communicable diseases (oat beta-glucan)
- Gives the sense of 'fullness' and satiety
- A good way to achieve fast weight loss

Citri-Fi® doesn't just hold water, Citri-Fi® binds it!



EFSA and USFDA have laid the guidelines about fiber-enriched food product claims as below:

SOURCE OF FIBER

A claim that a food is a source of fiber, and any claim likely to have the same meaning for the consumer, may only be made where the product contains at least 3g of fiber per 100g or at least 1,5g of fiber per 100 kcal.

HIGH FIBER

A claim that a food is high in fiber, and any claim likely to have the same meaning for the consumer, may only be made where the product contains at least 6g of fiber per 100g or at least 3g of fiber per 100 kcal.



Denico is one of our key partners who have developed a blend of inulin, soluble wheat fiber, and psyllium husk which can be easily incorporated into any liquid or solid dairy product. The fiber blend has no taste of its own and possesses very good solubility. The key ingredients of this fiber blend, wheat and psyllium, have been an integral part of dietary habits in many cultures around the world. The product is natural and E-Number free. The fiber-enriched dairy products have gained substantial popularity in the global markets, but there still exists tremendous growth potential in the GCC market.

Below are some of the high fiber products already available in international markets:



JU 543 – All-round Stabilizer for Juices and Drinks

Introduction to Stabilizers

Benefits of Stabilizer Systems

Stabilizer systems are typically used in still drinks to:

- Suspend pulp and particles and avoid phase separation during storage
- Control mouthfeel and sensory properties

JU 543 – An All-round Stabilizer for Juices and Drinks

Danisco has developed JU 543, which is an all-round stabilizer for almost all types of still drinks. The stabilizer can work in both juices and juice concentrates. The dosage of JU 543 is as low as 0.03% (may vary depending on fruit variety, required functionality and other parameters). The JU 543 helps in providing mouthfeel as well as stabilization to the product to a great extent. JU 543 can be added to the juice processing line with the help of high shear mixer and thus, no new infrastructural investment is required for using this product. The main USPs of JU 543 are:

- Versatility
- Reliability
- Adaptability

JU 543 is a totally safe additive and meets all the specifications laid down by WHO. It is a combination of Cellulose Gum and Xanthan Gum. The product is Halal certified and can be added to all types of juices and drinks.



The unique effect of Danisco's stabilizer systems is obtained by means of carefully selected raw materials, processing conditions and standardization methods, ensuring products of high uniformity.

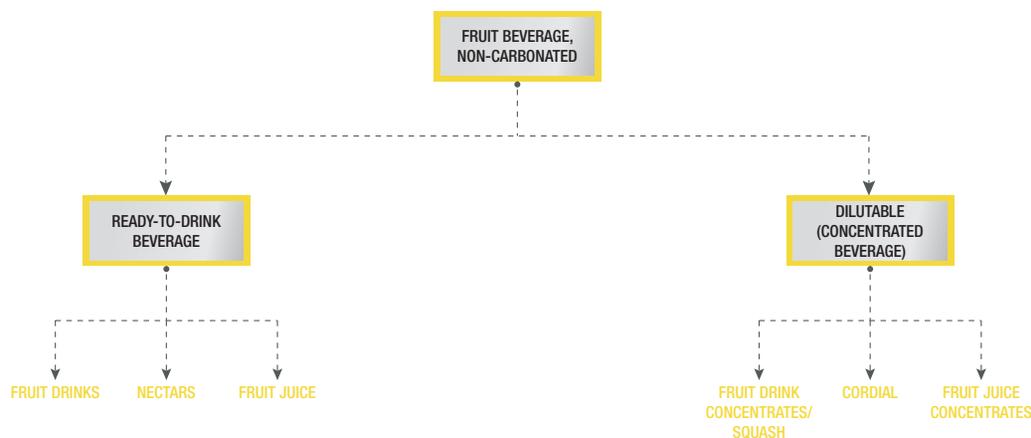
The benefits of using Danisco stabilizers in beverages are:

- Good suspending effect
- Effective sensory control
- Highly efficient and cost-effective
- Optimal selection and combination of ingredients
- Well-defined properties
- Wide range of specialized products
- Replacement of lost mouthfeel in low calorie drinks
- Increased perception of higher juice content
- Addition of texture e.g. jelly drinks



Types of Still Drinks

Different names are used for each variety within the fruit beverage range, many of which are used in specific geographical areas only. A guideline to definitions of fruit beverages is given in the figure below.



The Use of Stabilizers to Improve the Mouthfeel of Fruit Beverages

Health and cost concerns have led to increased interest in removing sugar from drinks and replacing it with a non-nutritive sweetener. Although sweeteners can replace taste loss, they do not replace the texture provided by sugar.

Danisco offers a range of stabilizers which can replace the loss of mouthfeel in a cost-effective way.



Types of separation in fruit beverages. A: stable beverage; B: slight sedimentation of pulp and fruit particle (ineffective stabilizer system); C: complete phase separation (wrong stabilizer system); D: Neck ringing - essential oil separation due to unstable flavor emulsion.

Fruit Pulp and Particle Suspension

The sedimentation of pulp, particle and cloud material is a phenomenon related to beverages based on a high content of fruit pulp solids. This takes place over a certain storage period and the result is a non-homogeneous product with an unattractive appearance. The most common types of separation in fruit beverages are shown in examples B and C in figure above:

- sedimentation of pulp and fruit particles, and
- separation in a serum phase and cloud phase

The rate of separation is related to several factors such as the size and density of the particles as well as the viscosity and yield value properties of the beverage. A stabilization and suspending effect are obtained using stabilizer systems with a high yield value. The presence of yield value is synonymous with the presence of a stabilizing network in the beverage. Stabilizer systems are giving a high yield value and, thus, a good stabilizing effect may not necessarily have high viscosity, as the two aspects are not related. This means a beverage may have a good suspending effect (high yield value) and low viscosity. In beverages requiring a high degree of flavor emulsion stability (see example D in figure above), the use of emulsifying agents may be necessary.

How to Select Stabilizer Systems for Fruit Beverages

When selecting stabilizer systems for fruit beverages, it is essential the desired functional properties of the stabilizer system are clearly defined and that they are related to the type of beverage in question.

The most important parameters to define are:

- the type of beverage – ready-to-drink or dilutable
- the level of pulp-suspending effect required
- the mouthfeel characteristics – heavy or light
- the viscosity profile
- the fruit type
- the fruit juice/concentrate content
- the required flavor release
- legislation
- cost

DAIRY COMMODITY UPDATES

The upward price movement trend of SMP which began in Q4 2018 and continued through the first two quarters of the year kept following the same route in Q3 2019. Starting from under 1,600 Euro/MT FOB in Oct 2018, SMP from Europe closed at around 2,180 Euro/ MT FOB for September. This is an approx. 4% increase since June, when the prices were trending at approx. 2,094 Euro/MT FOB levels from Europe. Compared to same time last year (September2018), this is an approximately 30% price increase. This time last year, the prices were 1,670 Euro/MT FOB levels.

SMP prices from Oceania have also followed the upward trend moving to 2,345 Euro/MT FOB in August, as compared to 2,120 Euro/MT FOB in June. This is approximately 35% higher than August 2018 prices, when the average price for SMP from Oceania was trending close to 1,741 Euro/MT.

SMP prices from USA have not moved up in the same proportion as EU and Oceania. The prices moved from 2,045 Euro/ MT June 2019 to 2,090 Euro/MT FOB in September 2019; a 2.4% increase in 3 months.

Overall, compared to last year average prices, SMP from EU, Oceania and USA has shifted 35.5 – 39%. Some of the reasons for the sharp increase in price is mentioned later in the newsletter.

WMP prices from EU showed a marginal drop of 1.6 in Q3 moving from approximately 2,915 Euro/MT FOB from 2965 Euro/ MT FOB in June this year. WMP prices from Oceania have been increasing since June and have moved to approximately 2,860 Euro/MT FOB in August compared to 2,717 Euro/MT in June.

Some more points worth sharing in the context of dairy commodities:

1. **High Summers in Europe:** Out of the total skim milk powder production in Europe, 30% is supplied by Germany, followed by 28% from France. Third position is held by Belgium at 12%. Their last three year production for milk powders is given below:

Country	2017	2018	2019
Germany	430,000 MT	414,000 MT (260,540 MT Jan-Jul 18)	236,000 MT (Jan-Jul 19)
France	409,000 MT	385,000 MT (215,760 MT Jan-Jun 18)	228,000 MT (Jan-Jun 19)
Belgium	154,000 MT	170,000 MT (91 MT Jan-Jun 18)	91,000 MT (Jan-Jun 19)

By analysing the production of the three largest manufacturers in Europe, we can observe that milk production is falling on a YOY basis. Even for the current year, based on a YTD comparison, Germany is down by almost 10% over last year, although France has shown a 5% increase and Belgium is stable. The high and longer summer temperatures in Europe in the current year as well, as they were seen in 2018, led to a drop in milk powder production.

The drop in milk production and a shorter season have led to the constant increase in the skim milk powder prices for the year.



2. Increased demand from China: the China-US trade war has also contributed to the increase in price. As compared to LY, Chinese imports of milk powders (mainly skim milk powders) from Europe has increased by 23% on YTD basis. Against an import of 542,000 T in Jan-Jul 2018, this year the imports stand at 664,000 T, with Germany being the lead exporter, followed by Netherlands and France. Exports from USA have dropped by 53% year on year on YTD basis.

Reduced production, shorter season and increased demand from China have supported the price increase and this could keep the price trends upwards for the rest of the year.

3. Shift from WMP to FFMP – The demand for FFMP has not slowed down and it is expected to stay firm in the coming months as well. This has also created an increased demand for milk solids, thereby keeping the SMP prices on the rise, while also pushing the FFMP prices upwards. With limited availability from Europe and higher milk solid prices from Oceania, the FFMP prices are expected to rise further during the year.

Market developments that can make a difference

1. The constantly dropping butter prices are pushing the EU suppliers to alter their product mix to achieve the best realization although butter production has increased in Germany the equivalent ratio has dropped in France. Also, reduced realization of butter is making the SMP prices go up to strike the balance.
2. The increased demand for SMP from Europe by China and with the availability of SMP shrinking, it may be an opportunity to book long. It may also imply that the prices will stay firm in the coming months, which would again mean long term contracts can be good option to have control on the costings and ensure availability.
3. With production increasing in Ireland it would be ideal to consider Irish products.
4. USA products may be more available and more price competitive in order to enter new markets as China drifts away to EU origin products.



Please contact FSL if you are interested in any of the products showcased above:

Manish Roy
Food Specialities Limited
Dairy Unit
manish@foodspecialities.com
Tel: +971 4 8069 639