

INTERNATIONAL DAIRY magazine



Health Ingredients Europe 2014

A view from a dairy-angle on the ingredients show

Hi 2014 in Amsterdam attracted again a great many experts from the food industry. The show offered all that they need to know about protein enrichment, sugar reduction and natural food colouring. IDM spent two days at the trade show and here is what we were able to extract of dairy-relevance.

Volac, one of Europe's leading manufacturers of nutritional whey proteins, predicts the appetite for protein, in particular dairy proteins, will continue to drive the sports nutrition category into 2015 and beyond. And as

already witnessed, this will ultimately lead to a bigger demand for protein-fortified everyday products to meet the growing demand from mainstream consumer markets.

Louise Mahrta, Volac's Marketing Manager – Human Nutrition commented: "Sports nutrition will continue to play a big part in the protein industry, especially whey protein. Sports enthusiasts have long recognised the importance of whey proteins as an essential part of their pre, intra and post workout routines. Now as more everyday consumers are beginning to understand how protein fits into their daily lifestyle nutritional needs, we

will see an increased demand for convenient high protein solutions for a range of new food formats moving beyond everyday protein powders and bars."

LESS FAT, MORE PROTEIN

Ingredia

High-protein and great tasting products

Ingredia showed product concepts for normal consumers who ask for high-protein and great tasting products. Despite a protein content of 7 or even 10%, one could not notice that the samples handed out at the show



Simply delicious – protein-enriched caramel cream with algility HP (whole protein from microalgae) (photo: Roquette)

booth were really high-protein products. One should especially note that the samples were really fluid, just like conventional milk drinks, and had a very good texture and mouthfeel at the same time. Ingredia did the trick using native micellar casein (Prodiel Fluid).

Using the Prodiel Advance concept (again native micellar casein), Ingredia showed a low-fat chocolate pudding without the typical protein-like texture despite a protein content of 12%. The texture was smooth, shiny and creamy although the product had only 1.5% fat. And the best: the pudding was sterilized in the cup by rotary autoclave making good for a shelf life of 18 months.

Roquette

Premium but with less or no fat

Roquette again had very interesting product samples at their booth. With these product concepts the French ingredients supplier demonstrated how high-quality dairy-like products can be made using various combinations of vegetable proteins and lipids. Roquette also demonstrated that they are now extending their range of microalgae ingredients fully to dairy.

Right for the high-protein trend, Roquette's food formulation experts developed a caramel cream dessert for real indulgence. The product concept came in two varieties based on Neutralys pea protein or hydrolyzed wheat protein. Both products contained algility HP, whole protein derived from microalgae. In both products 35% of milk protein was sub-

stituted by vegetable alternatives compared to a normal cream dessert. Taste and texture were exceptionally good for both samples.

Another innovation by Roquette was a premium-taste ice cream that offered 39% fat reduction, 43% saturated fats reduction and 54% cholesterol reduction but the taste was still like that of any premium ice cream. Based on skimmed milk and a little bit of cream and SMP, the product contained algility HL (whole algal flour) as a source of lipids that improve the nutritional profile while preserving texture.

And last but not least, Roquette offered a fat-free milk-based drink that had a texture very similar to semi-skimmed milk. A 50% calorie reduction was achieved using a new modified maize starch Cleargum CK2020. Compared to a 1.5% fat milk drink, formulation cost was reduced by 8%.

Rousselot

Protein for enrichment

Rousselot introduced ProTake-P, an animal protein destined for protein enrichment based on gelatine. The non-bitter protein was used together with gelatine (Rousselot 200 PS) for making a Panna Cotta-style product that was enriched in protein but low in sugar and fat. Here, ProTake-P was used as a fat mimetic while at the same time it also boosted the protein content of the product.

ProTake-P has binding, emulsifying, stabilising and fining properties. It comes as a dust-free powder and can also replace sugar as it serves as a bulking agent. ProTake-P also allows for clean labelling.

Attention also focused on Peptan, the award-winning collagen peptide range, along with the ever-growing body of scientific research proving the efficacy of these ingredients.



Rousselot showcased protein enrichment concepts based on gelatine (photo: Rousselot)

Combining gelatines and possibly other ingredients, Rousselot Synergy Systems enhance the functionality of the individual ingredients, providing exciting new options for the food industry. Part of the Rousselot Synergy System range, AcidoGel, a gelling agent, allows for the manufacture of stable aerated confectionery with acid flavour, for instance. An excellent example of concepts achievable using Rousselot Synergy Systems was Chocospread, a reduced fat chocolate spread, available to sample on the stand, that was developed using the EmulsiGel Synergy System for its emulsification and stabilising properties.

Also available at the booth were Peptan collagen peptides, a key ingredient for bone and joint health and skin beauty. Here, especially the science behind Peptan was highlighted.

Volac

Whey protein for better snacks

Answering to the rising protein trend, Volac introduced the Volactive ProCrisp concept. Michael Hiron from Volac pointed out that the food market in developed countries develops ever more into a snack market. With ProCrisp, Volac intend to bring their



Volactive ProCrisp brings an extra portion of high-quality protein to cereals & snacks (photo: Volac)



Michael Hiron, Volac: The high-protein trend has only just touched mainstream consumers in Europe (photo: Volac)

protein expertise to customers. ProCrisp is an extruded crisp combining WPI and rice flour bringing a light and crispy sensation to breakfast cereals and the like while fortifying them with high-quality protein. Dairy protein, said Mr Hiron, enjoys highest attention in sports nutrition whereas the high-protein trend has only just touched mainstream consumers in Europe. With a little consumer education, the dairy industry can bring milk back into the focus, he added.

COLOURS

GNT

Global consumer insight

What GNT predicted at Fi 2013 is now a fact. The EU Guidance on colouring foods



GNT has also started to use paprika as a raw material for colouring foods (photo: IDM)

now defines what is a food colouring and what is not. Paul Collins from GNT said that this Guidance adds credibility to colouring foods. In 2013, GNT has introduced oil-dispersible food colouring that can also be used in ice cream coatings or coatings for cereals in yogurt etc. In 2014, GNT started using red paprika as a raw material for vibrant orange-red colors that are not sensitive to pH. In spring 2015, Mr Collins announced, GNT will make available a global consumer insight on the perception of natural colours.

Naturex

Bundle of new red colours

Naturex highlighted natural food colours and colouring foods. New for yogurt as well as for quarg and spread cheese was a red colour derived from red radish, ideal for carmine substitution in fruit preparation for yogurt. The colour matches that of carmine but has no off-taste and is stable at pH 4.0-4.5. Another new product is VegeBrite Beetroot, an extract from red beets that should be added to the formulation right after heat treatment of the base product. For bi-layered yogurts, Naturex can now offer a strawberry red colour that shows no migration.

Naturex also highlighted a new concept beverage targeting potentially harmful LDL cholesterol. The drink contains pectin obtained from a proprietary process that makes it possible to use it at higher dosages than conventional pectins without detrimentally affecting the texture of the finished product. This means it's possible to fulfill the conditions of an approved Article 13.1 health claim relating to pectins, which states "helps to maintain normal blood cholesterol levels".

BLENDING

SternMaid

Blending for dairy

Mark Riemer, Commercial Director at SternMaid, said that the contract manufacturer and manufacturer of products that end up as raw materials and ingredients in the various companies belonging to the Stern-Wyviol group has installed a production capacity of 30,000 to 40,000 tons. The Rellingen plant is also a contract producer for the dairy industry, some 20% of the annual production is dairy based, mostly blending and refilling processes. There is also a fluidised bed pro-



Naturex launched a new red colour portfolio at Hi (photo: Naturex)

cessor with a capacity of 2,500 tons that produces highly soluble products or products with a very fine dispersion of trace elements or salts.

DATA & SPECS

UL Prospector

One-stop data base

The UL Prospector claims to be the world's largest data base for food ingredients. The data base comprises 1,500 manufacturers and some 8,000 ingredients. For each of them a complete set of documentation and specification, data sheets, white papers and so forth is available directly on the Prospector website making it a one-stop-shop for information. Membership at UL Prospector is free but restricted to food industry professionals.

SWEETENING

BENEEO

The importance of low glycaemic nutrition

BENEEO's motto for Hi was to highlight the importance of a low glycaemic nutrition. Thomas Schmidt from BENEEO said that palatinose with its low glycaemic index can avoid the daily roller coaster caused by foods and drinks containing a high load of sugar. As there is an early programming in children for sugar consumption the industry should adopt its role for triggering a change. In Asia, for instance, babyfood



Nathalie Pauleau-Larrey from Naturex highlighted the new natural red colours her company unveiled at Hi (photo: IDM)

contains palatinose, reducing the amount of high-glyc sugars. There are also recipes available for babyfood with lactose and maltodextrin, added Mr Schmidt.

At the show, BENE0 offered samples of a yogurt drink (Velvety Yo-fruit sips) that was stabilised using rice starch (shear-resistant and acid-stable) for a very good texture and mouthfeel. The white mass was made from skim milk, palatinose (replacing sugar) and Orafit Synergy1 (inulin enriched with oligo-fructose) in a standard yogurt making process. Rudy Wouters from BENE0 said that a clean label recipe of this product was also available.



Thomas Schmidt, BENE0: Palatinose can avoid the daily roller coaster caused by foods and drinks containing a high load of sugar (photo: IDM)

Cargill

The sweet Stevia spot

So far out of 2,700 products in the market that contain Stevia leaf extract sweetening, only 9% are dairy products. Cargill has worked intensively on Stevia leaf extracts

and was able to find a “sweet spot” for the combination of the various steviol glycosides delivered by the Stevia plant. Such sweet spots, where off-tastes are at an absolute minimum, can be used to formulate the ideal sweetening solution for milk products, said Michael vom Dorp, Cargill. Clean taste Stevia sweetening solutions allow for a 50% calorie reduction and may eliminate the need for masking agents. The adoption of Stevia in retail own label products clearly shows the enormous evolution this sweetener has undergone. This was underlined by a (very good!) low-fat white chocolate praline milk drink that had a 30% sugar reduction due to sweetening with ViaTech TS900 Stevia leaf extract. Customer trials show a high performance in CSD, fruit drinks, sports-drinks and dairy products and even cocoa based applications have a significantly better taste than with high Reb A containing stevia leaf extracts.

NP Sweet

Stevia 3.0

Matthias Meyer from NP Sweet is positive that “Coke life” will change the sweetening not only for beverages but also for dairy. The general trend is to exchange artificial sweeteners by natural products such as Stevia. The decline of fruit yogurt sales in many countries was also caused by the discussion on reducing sugar intake as well as concern about how natural the fruit is that is contained in the products. Stevia can help, said Mr Meyer, as finally also indulgence products can be made using this natural sweetener. NP Sweet call this Stevia 3.0. Using a so-called “Sigma-D” concept a one-step solution can now be offered to the dairy industry that eases the use of Stevia in production. The company had a very well tasting high-protein (7.3%) Greek-style yogurt on display that was made using skim milk and had only 100 calories per serving.

FLAVOURING

Carbery

Optimum flavour

Carbery Food Ingredients has created a flavour map for dairy protein hydrolysates in sports nutrition for optimum flavouring of finished products. The company had a sample of a peanut flavoured drink that had 76% of milk protein and was made on the basis of WPC. The product tasted great and was fluid just like any normal milk drink. There was also



Michael vom Dorp, Cargill: We have taken the Stevia development one step further (photo: IDM)



Matthias Meyer, NP Sweet: Coke life will completely change sweetening for dairy (photo: IDM)

a delicious chocolate pudding that contained 58% protein.

NUTRITION

Arla Foods Ingredients

Snacking and sports

Arla Foods Ingredients addressed the snacking market on the basis of dairy proteins offering health benefits. One sample was a drink with 6% protein made using pure whey and fibres but no sugar. And there was a smoothie also with 6% protein made from whey protein and juice.

A special highlight at Arla Foods Ingredients’ stand was a whey protein hydrolysate designed for athletes. Hydro.365 is a very small peptide that is absorbed extremely fast. This gives athletes higher performance and faster recovery – proven by a new



Troels Laursen, Head of Health & Performance Nutrition at Arla Foods Ingredients: We believe snacking is the future of eating. But it will be healthy snacks that are key to maximum success (photo: IDM)

study. The Danish Olympic Team will adopt Arla's new product for its diet.

DSM

Vitamin D and milk

DSM Nutritional Products highlighted the important role of vitamin D as the European Commission has authorized an Article 14 EFSA health claim, submitted by DSM, stating that vitamin D helps to lower the risk of falling associated with postural instability and muscle weakness. The decision allows brand owners to market a scientifically proven, cost effective and safe way of reducing bone fractures and thereby significantly improving the general health status of older people.

A daily intake of 20 µg of vitamin D from all sources is required to obtain the beneficial effect. The claim can only be used for food supplements that provide at least 15 µg (or 600 IU (international units) of vitamin D per daily portion. Wouter Claerhout, DSM, said that despite the great amount of publications that are released every year on this vitamin, the book on vitamin D has just started to be written. Musculo-skeleton health has just come up on the radar of science and vitamin D seems to play an important role here as well. The EFSA has given vitamin D an article 14.1 health claim. Vitamin D, Mr Claerhout, said is easy to add to products, there is no problem with off-taste and there is excellent science that backs the use of it. Milk, because of its protein and calcium content, is the ideal vehicle to bring vitamin D to consumers.

DuPont

The possibilities of Litesse

DuPont Nutrition & Health developed a beverage concept to demonstrate the possibilities of Litesse. There was a creamy vanilla chai balancing Litesse with soy and dairy proteins. Litesse is a prebiotic dietary fibre and there is a link between high fibre diets and satiety. Litesse can, according to human studies, reduce voluntary energy intake at a subsequent meal. This reduction of energy intake will not be compensated over the rest of the day.

FrieslandCampina Ingredients

Addressing the nutritional needs of the elderly

FrieslandCampina Ingredients that comprises the DMV, Domo, Kievit and Creamy



Wouter Claerhout, DSM: Milk is ideal to bring vitamin D to consumers (photo: IDM)

Creation branches showed some remarkable product developments. One was an instant drink that addresses the nutrition needs of elderly people while offering a very good taste at the same time. The drink is made from Ca-caseinate, a high fat and high protein powder (Vana-Sana AM 40), maltodextrins, vitamin and mineral premix and DHA. Despite an 8% protein content in the ready drink there was not the slightest sign of sandiness and despite a very high concentration of DHA there was no off-taste.

Another concept introduced by F/C Ingredients was a mobility support drink, a tasty high-protein yogurt smoothie designed also for the elderly. It was made using WPC and MPC on the basis of skimmed yogurt.