

# DAIRY INDUSTRIES

The background of the cover features a laboratory setting. In the foreground, a glass beaker is filled with a vibrant blue liquid topped with a thick white foam. Behind it, a larger glass bottle and a smaller vial, both containing blue liquid and white caps, are visible. In the background, a glass is being filled with blue liquid from a tube. The entire scene is set against a dark, reflective surface.

international

dairyindustries.com

APRIL 2022

## The colour of dairy 2022

### Inside

What's next in ingredients  
Concours Général Agricole  
Packaging now  
Farm to Fork in the EU



**Whitebloc Aero:  
incredibly fast changeovers  
and exceptional product yield.**



Validated dry decontamination technology for plastic containers, optimized to offer ESL beverage producers utmost flexibility, sustainability and low TCO.

GEA's extensive experience in aseptic filling has inspired the design and concept of GEA Whitebloc Aero, conceived to target extended shelf life premium dairy beverages distributed in cold chain. The GEA Whitebloc Aero is versatile, fast and flexible, hence capable of running many small batches and filling a variety of different products on the

same machine. Thanks to a built-in product recovery system, the GEA Whitebloc Aero eliminates product waste during the start-up cycle, at the end of each production run and during changeovers. Filling valves can be equipped with a load cell (weight filling) or flow meter (volumetric filling) for maximum flexibility and accuracy.

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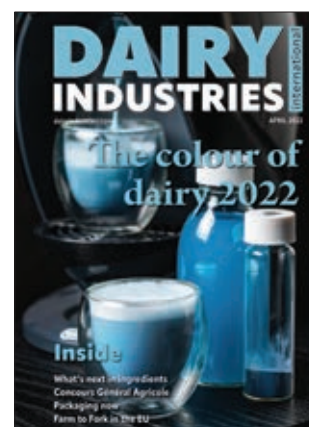


Photo courtesy of Gavan



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# DAIRY INDUSTRIES EXPO

international

**NEW**  
Industry  
Event



Something  
**BIG**  
is happening

The **ONLY EVENT** you will want  
to attend in September 2023

For more information contact Samantha Bull: [sam@bellpublishing.com](mailto:sam@bellpublishing.com)  
or Chris Seldon: [chris@bellpublishing.com](mailto:chris@bellpublishing.com)



# Comment

## Dairy sings the *blues*



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Well, the colour this year is definitely blue, which as you see on our cover, is quite an attractive shade. I know that industry experts in many different sectors spend a lot of time deciding what colours will be highlighted in our clothes, cars and furniture for the next few years. I quite like a blue shade in dairy, unusual as it is, for everything ranging from blueberry milkshakes to cheese and ice cream.

As humans eat with their eyes as much as their stomachs, it is an appealing tint. Please see our article on page 32 for more information.

We have an interesting mash-up of events going on globally. While certain country "leaders" thought that a two-year pandemic wasn't enough to deal with, and that what the world needed was a senseless, brutal war in Ukraine, other countries are reopening borders and welcoming travellers of every stripe. The Omicron variant seems to be on the wane in most places, and people are travelling. Our intrepid cheese reporter, Jenny Deeprise, headed to Paris for the Concours Général Agricole, and her report on page 28 makes for interesting reading.

Closer to home, Mona Dairy is set to open soon for cheese making, on the island of Anglesey in Wales. Please see our interview with one of the co-founders on page 42.

Suzanne Christiansen, Editor

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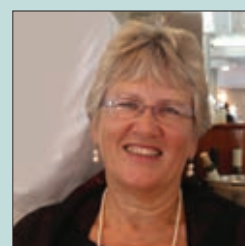
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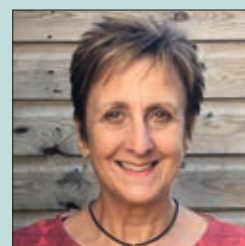
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## IN BRIEF

**Arla marketing for Meil-Fischer**

Arla Foods Germany has appointed Laurence Meil-Fischer as head of marketing. In her newly created position as vice president of marketing, she is now responsible for all marketing for Arla brands, as well as private label products and category development for all German product segments of the white and yellow lines.

**Elopak ASA reports record profits**

Elopak ASA, supplier of carton packaging and filling equipment, had a satisfactory end to last year and experienced revenue growth of 12%, compared to the fourth quarter of 2020. Overall, revenue growth last year was 3.5%, and revenue for the whole of 2021 of €940m is the highest Elopak has ever delivered. This gave an operating profit of €121m.

**Quehenberger in at AMA**

The Agricultural Chamber of Austria (AMA) has named Rupert Quehenberger, president of the Salzburg Agricultural Chamber, as the chairman of the board of directors of Agricultural Market Austria (AMA). He was also elected by the annual general meeting of AMA-Marketing to the supervisory board, whose presidency he takes over.

**Cremo buys InnoprAx in Switzerland**

Swiss dairy group Cremo has acquired InnoprAx AG and its associated brand Lattesso, which is the number two cold coffee drinks brand in the Swiss market. The company says the latter offers an attractive growth segment and benefits synergies in sales and marketing areas. Since its launch in 2013, Lattesso products are produced exclusively at the Cremo site in Sider.

**Alexander appointed at Ornu**

Ornu has announced the appointment of Kerry Alexander as the new brands director of Ornu Foods UK. Based at its headquarters in Leek, UK, Alexander's role will be to continue the growth and development of Ornu Foods UK's consumer brands including Pilgrims Choice cheese and Kerrygold butter.

In the UK, Ornu Foods' business is the largest supplier of pre-packed British and Irish hard cheese to a range of major retailers with sales of over £400 million (€476.5m). The brand attributes its success to its attention to product quality and continuous investment in marketing and shopper activities.

Prior to her appointment at Ornu Foods, Alexander held a number of senior marketing roles with FMCG and consumer healthcare brands in Africa and Europe.

**Nutri-Score reviewed in the Netherlands**

A report from the US Department of Agriculture's Foreign Agricultural Service, and the Global Agricultural Information Network (GAIN) has been released, outlining the benefits and challenges of the nutrition labelling system, Nutri-Score. The labelling scheme was first announced in the Netherlands in 2019, but promptly faced criticism, leading to a scientific committee set up between the Netherlands and seven other European countries that were using or implementing Nutri-Score to improve the system in order for it to better adhere to national dietary guidelines.

The Dutch considered several front-of-pack nutritional labelling systems before deciding on Nutri-Score, including the British Traffic Light System and the Scandinavian Keyhole System. Nutri-Score is a front-of-pack label that simply and clearly demonstrates the nutritional value of the product using a five-colour scale, marked from A-E, with A in green

representing the most nutritional choice and E in red, the least.

Although some Dutch food producers and supermarket chains have already begun voluntarily using Nutri-Score, it is foreseen to be officially introduced in the Dutch market in the first half of 2022. Introduction of the Nutri-score label is also expected in Luxembourg and Spain, and it has already been rolled out in Belgium, France, Germany, and Switzerland.

Nutri-Score is designed to stimulate healthier consumer choices by rating products by their nutritional contents, distinguishing foods into four categories: general food, cheeses, fats, and beverages. Within each category there is a scoring system based on "positive" and "negative" components specific for each category.

**Growth for Swiss cheeses**

The record year of 2020 for Swiss cheese exports was exceeded in 2021, by 6.9%. Only the processed cheese and ready-made fondue categories suffered losses in the country. Overall, revenues for the Swiss cheese industry (dairy farmers, cheese makers, refiners, trade) in 2021 was CHF 756.7 million (€727.5m), which corresponds to an increase of +9.1% compared to the same period in 2020. This increase is due on the one hand to the uptick in export volumes, but on the other hand to price increases. At CHF9.18/kg (wholesale price), the average export price was higher than 2020 (CHF9/kg).

Likewise, more Swiss cheese was produced in 2021 and demand continued to rise sharply in 2021. Around 47% of Swiss milk is processed into over 700 different Swiss cheese specialities. Almost 40% of this is exported to over 70 countries worldwide.

The main market for Swiss cheese is Europe, with 82% of the exported volume or 67,895 tons, an increase of 7.9%. Of this, Germany imports 34,804 tons of Swiss cheese. This corresponds to a good half of the total volume that is exported to Europe. This is followed by Italy with 11,548 tons and France with 6,731 tons of Swiss cheese.





# Parmigiano Reggiano sees sales increase

Parmigiano Reggiano has ended the year with positive results in terms of both sales and prices. In 2021, consumer turnover hit an all-time high of €2.7 billion compared to €2.35 billion in 2020. Over the last year, the value at production was also the highest on record, at €1.7 billion compared to €1.5 billion in 2020.

With an overall increase of 3.9% compared to the previous year, 2021 was also a record year for production, reaching 4.09 million wheels of cheese, equivalent to around 163,000 tonnes. These figures follow the Consortium of Parmigiano Reggiano's increasing focus on foreign markets which offer excellent development opportunities for a constantly growing, but planned, production. Overall, production has risen by 10.6% over the last four years, from 3.7 million wheels of cheese to 4.09 million wheels.

Parmigiano Reggiano also enjoyed a stable position in terms of market price, with an annual average of €10.34/kilo for 12-month Parmigiano Reggiano from a dairy producer, with price fluctuations between €10.25/kg and €10.40/kg. In comparison, the average price for the same product in 2020 was €8.57/kg and €10.76/kg before the onset of the pandemic in 2019.

Over the last year, Parmigiano Reggiano's distribution of consumption showed an increasingly international tendency, with the cheese being enjoyed globally.

Italy, which accounts for 55% of the market, recorded a 4.5% increase in consumption compared to pre-pandemic levels, consuming 89,101 tons in 2021 compared to 85,258 in 2019. The figure is slightly down (-1.3%) from 2020, which observed a boom in domestic consumption of Parmigiano Reggiano sparked by the Covid-19 pandemic and ensuing lockdown.



Parmigiano Reggiano's export share observed a 2.9% volume growth to 45%, with the US as the first market, accounting for 21% of total exports. France (19%) and Germany (17%) followed in second and third place, respectively, with the UK (11%) and Canada (5%) in fourth and fifth.

In the main markets, the best sales performances were recorded in the US (up 10.4%), France (up 4.5%), and Canada (up 5.5%). Most other European markets also recorded growth, with Switzerland (up 14.7%) and Sweden (up 13.2%) of particular note. The same cannot be said for Germany (down 1.9%) and the UK (down 15.6%), which lost ground despite significant growth in 2020, the latter being particularly affected by ongoing issues caused by the UK's withdrawal from the European Union.

## Hochland Group plans investments

German dairy group Hochland SE has set aside more than €100 million for investments and extensive construction projects, which are already underway at many locations in the Hochland Group. In the coming years, production buildings and additional capacities will be created in order to be prepared for further growth, the company says.

Over the next few years, a flexible production facility will be built in Dieue-sur-Meuse, France, where different types of milk can be processed into soft cheese, cream cheese, and hard and semi-hard cheese. The plant is set to become a best practice example in terms of sustainability throughout the group due to its processing of recyclable packaging and the reduction of carbon footprint, Hochland noted.

In 2021, not only were the milk receiving lanes renovated and the gallery for milk buffer tanks expanded, but the soft cheese ripening rooms also underwent renovation, and the wastewater treatment plant was renewed. Finally, the construction of a new employee

parking lot has been implemented.

In Schongau, German ground was broken in mid-April 2021 for the new, fully automated high-bay warehouse.

It will be equipped with two climate zones and around 10,000 pallet spaces for refrigerated finished goods, non-refrigerated auxiliary and operating materials, more than tripling the existing storage capacities at the site. Completion is scheduled for July.

The production of Gervais cottage cheese was additionally relocated to Schongau last year. To this end, existing production facilities were converted, and new equipment installed, and capacities to produce white cheese will be expanded by 2023.



# Infant formula marketing comes under scrutiny in WHO report

More than half of parents and pregnant women (51%) surveyed for a WHO/UNICEF report say they have been targeted with marketing from formula milk companies, much of which is in breach of international standards on infant feeding practices.

The report, "How marketing of formula milk influences our decisions on infant feeding," draws on interviews with parents, pregnant women and health workers in eight countries. It uncovers systematic and unethical marketing strategies used by the formula milk industry – now worth US\$55 billion – to influence parents' infant feeding decisions.

The report finds that industry marketing techniques include unregulated and invasive online targeting; sponsored advice networks and helplines; promotions and free gifts; and practices to influence training and recommendations among health workers. The messages that parents and health workers receive are often misleading, scientifically unsubstantiated, and violate the International Code of Marketing of Breast-milk Substitutes (the Code) – a public health agreement passed by the World Health Assembly in 1981 to protect mothers from aggressive marketing practices by the baby food industry.

"This report shows very clearly that formula milk marketing remains unacceptably pervasive, misleading and aggressive," said Dr Tedros Adhanom Ghebreyesus, WHO director-general. "Regulations on exploitative marketing must be urgently adopted and enforced to protect children's health."

According to the report – which surveyed 8,500 parents and pregnant women, and 300 health workers in cities across Bangladesh, China, Mexico, Morocco, Nigeria, South Africa, the United Kingdom and Vietnam – exposure to formula milk marketing reaches 84% of

all women surveyed in the United Kingdom; 92% of women surveyed in Vietnam and 97% of women surveyed in China, increasing their likelihood of choosing formula feeding.

Across all countries included in the survey, women expressed a strong desire to breastfeed exclusively, ranging from 49% of women in Morocco to 98% in Bangladesh. Yet the report details how a sustained flow of misleading marketing messages is reinforcing myths about breastfeeding and breast milk, and undermining women's confidence in their ability to breastfeed successfully. These myths include the necessity of formula in the first days after birth, the inadequacy of breast milk for infant nutrition, that specific infant formula ingredients are proven to improve child development or immunity, the perception that formula keeps infants fuller for longer, and that the quality of breast milk declines with time.

Globally, only 44% of babies less than six months old are exclusively breastfed. Global breastfeeding rates have increased very little in the past two decades, while sales of formula milk have more than doubled in roughly the same time. To address these challenges, WHO, UNICEF and partners are calling on governments, health workers, and the baby food industry to end exploitative formula milk marketing and fully implement and abide by the Code requirements.



## Ukraine war impacts world dairy markets

An invasion of Ukraine by military forces of the Russian Federation will see, in the short term (up to at least the end of the second quarter of 2022), global raw milk prices increase even faster than we've seen in recent times, according to Kite Consulting's client update on the impact of the war on dairy prices.

Ukraine and Belarus are net suppliers of dairy products to the global marketplace, while Russia is a net importer. Panic buying in the global dairy market, resulting from the loss of Ukrainian and Belorussian exports, may trigger further price increases, even when only moderate volumes are being traded.

Despite higher milk prices, farm milk production may not respond, or may even contract, as energy prices rise lead to on-farm cost-of-production increases that may

outpace milk returns, certainly in the short-term.

Dairy processors will face the effects of higher energy prices on their milk purchasing costs, their own operating costs, and on consumer buying power. A further increase of energy prices will drive up consumer inflation even further, hitting consumer buying power. Consumers are already clearly feeling food price inflation and retailers know this. This may impact on demand, and so UK retailers are likely to be highly resistant to further dairy price increases.

Selling to global dairy commodity markets will become even more attractive to those processors that have that option. Evidence of selling options in foreign commodity markets may be needed for UK retailers to be willing to accept further price increases from processors, however.



## Challenges for sustainable packaging

International research into sustainable packaging carried out by global packaging, product, and material test and inspection company Industrial Physics has found that almost half of the 255 global packaging professionals (49%) surveyed said meeting testing standards was one of the biggest challenges they faced in wider adoption of sustainable packaging materials.

The research goes on to reveal that almost three quarters of those surveyed (71%) reported that they found quality control processes 'significantly' or 'somewhat more difficult' with sustainable packaging materials.

About 69% of respondents cited 'cost' as the main supply chain challenge they face in the move to sustainable packaging. Global supply obstacles caused by the pandemic made sourcing more difficult and legacy issues remain, meaning numerous suppliers are often needed rather than one trusted provider. This places additional pressure on quality control processes and greater need for packaging integrity testing.

The Sustainable Packaging Research Survey also showed respondents think new standards (52.5%) and new legislation/

regulatory requirements (41.6%) will have the most impact on sustainable packaging innovation over the next five years.

The survey found that most companies are actively seeking sustainable packaging solutions but, in doing so, they experience a range of additional challenges. These include optimising material performance to protect goods (53%), passing increased material costs onto the consumer (50%), and ability to meet safety and testing standards (49%).

Findings show that paper, paperboard and fibreboard, plant-based, biodegradable flexible packaging, along with synthetic biodegradable packaging, are the most common materials being used to replace less sustainable alternatives like plastic, paper and foil packaging.



## IN BRIEF

### Fonterra adds partners to GDP

Fonterra has agreed a strategic partnership with New Zealand's Exchange (NZX) and the European Energy Exchange (EEX) to each take ownership stakes in Global Dairy Trade (GDT) alongside the Co-op. The partnership is expected to be completed mid-2022, with Fonterra, NZX and EEX each holding an equal one-third (33.33%) shareholding in the global dairy auction platform.

### Tetra Laval donates to Ukraine relief

Tetra Laval is donating several million in humanitarian support to Ukrainians and those that have been forced to flee. Around €1 million is donated to UNICEF's Drive for Ukrainian Children to support the children already affected by the war. A further €1 million will be allocated to secure safe food distribution for refugee camps mainly in collaboration with Tetra Pak's local customers.

### Elopak suspends Russian operations

Elopak has released a statement expressing solidarity with Ukraine and announcing the suspension of all the company's activities in Russia. It says it is deeply concerned by the tragic developments in Ukraine and stands with all those who are suffering at this time.

Elopak has wholeheartedly condemned the unprovoked attack by the government of Russia and supports the resulting economic sanctions implemented by the EU and other actors.

As a result of the ongoing and escalating conflict, Elopak has suspended all activities in Russia until further notice. Elopak's plant in Fastiv, Ukraine, has already been temporarily closed.

## How aware consumers are of probiotics



The biotechnology company Chr Hansen has released the results of a survey conducted in 16 countries to assess consumer awareness of probiotics and the potential benefits. The results show a strong interest among consumers to learn more.

Chr Hansen conducted the survey, where a total of 16,000 people took part. The results were: 75% of respondents said that they were very or somewhat familiar with probiotics, while 48% consume probiotics in supplements or other foods daily or almost daily. Around 50% of respondents are familiar or very familiar with the term "gut microbiome" and

the majority associate it with gut health, followed by immune health, well-being and overall health.

More than half of consumers have had a recommendation to consume probiotics from a trusted person. The preferred way to learn more about probiotics is to research them online. The taste of the product and trust in the brand are the most important factors in deciding on a particular probiotic food brand and sticking with that brand.

Despite the awareness, there are also a number of misconceptions. For example, 47% of consumers agree with the false statement that all dairy yogurts contain probiotics (in fact, most contain live cultures, but not all have probiotic cultures). An estimated 71% of consumers want to learn more about probiotics and prefer on-pack and online resources to increase their knowledge. They were also interested in health benefits information to select appropriate probiotic strains.

# The problem of personnel



David Phillips, a managing director at City & Guilds, looks at what the issues are for staffing in the food and beverage industries

According to research from UK skills development organisation, City & Guilds, despite key workers seeing the nation through the pandemic, the UK's most vital industries are being threatened by growing skills shortages, as poor reputations and concerns about low pay turn off potential new recruits. Just 22 per cent would work in food production, agriculture or animal care, the researchers note.

David Phillips has spent the majority of his career in support of education, working in companies that serve and partner with schools, colleges and training providers. He is passionate about working in the education and training sector, he says. Here, he discussed these concerns for food and beverage industry staffing and training with *Dairy Industries International*:

**Q. What can companies in the food processing industry do to improve their possible pool of talent for the jobs being offered, particularly in the areas of transport and logistics and those of food production and agriculture?**

The pandemic hid the impact of Brexit, and we're in a situation where the impact of Brexit and Covid-19 has combined, so not only do we not have enough people with the right skills, but we also don't have enough people to do the jobs. It's a personnel challenge, and the industry constantly needs to rethink how to compete with other sectors, not just competitors, and how to be attracting people into the roles.

There is also the point where you have to think about creating flexibility for people as well. As for the logistics end, until there are automation solutions, there will continue to be a lorry driver shortage, but this is global.

**Q. How would getting people to understand what goes into being a member of the food/dairy processing industry help to recruit new employees?**

The first question is, do people in the general population understand what food processing is about? Do they understand the roles and its benefits? Do they know anything about it? At the end of the day for labour, it's about getting people to look at it.

The industry has to understand what needs to be put forward for a PR campaign, to engage with people, and to get people interested in what it is.

The benefits of farming with animals and being outdoors, it's about how to communicate these from the industry to a much larger population. It's also about showing how people's current skills apply to many sectors, and can be taken from one area to another.

**Q. What is a key point for getting the message out?**

It's about communication, case studies, and educating people who look at the sector, so they may say, that's for me. There are certain sectors that people have an incorrect perception of. I think it's one of those sectors, and we have to think about the work we want to do, and how we get those right messages across.

When looking at bringing people into the sector, a proper induction is needed to understand what drives people nowadays. What people are looking for, in the things being offered.

How do you as an employer attract diverse groups of people interested in working in this sector? The food and beverage, and agricultural sectors, are more attractive to men than women, so strategies are needed to attract women into this area. With a shortage of labour, one has to ask, how can I compete?

There are a set of key questions people need to ask. These build on how you attract people into the industry, into a company. Then, it's about how to develop them and help them progress. For a lot of people, it's very important to see a future and to get somewhere in a job. This is the key to the process to attract, recruit and develop, and to show them the opportunities that the sector has.

**Q. What about governmental help?**

The UK government has become far more committed to technical and vocational occupations, education and skills development over the last five years, versus the previous ten. It has become more switched-on about vocational and technical roles.

As an education organisation, it pleases me to come out with campaigns on technical education and T-levels. The new T-level programme is fit for purpose, focused, and needs time to bed in, and is focusing on initiatives like this,





The dairy sector is a very diverse one, and complex as well. How will the vacancies be filled?

that will help. It's also important to see things happening within the sector.

What they have in common is a drive to develop skills and increase prestige. We can always do more, and encourage the government to work together to do more campaigning. In schools, a lot of students make decisions about their future at quite an early age. A focus in early education and in secondary schools, on sectors like this one, should be at the front and centre of being promoted.

**Q. What about the labour shortage?**

Leadership is important. The sector is diverse with the types and sizes of

businesses running from sole traders to very large businesses. It is a complex sector. How people lead and how people manage is very important. People who don't necessarily think about developing leadership management skills really should. People also like to work in environments they're interested in and to be developed.

At the end of the day, it's really about focusing on developing people, and thinking about it in long-term progression. With 53,000 farming vacancies, how will they be filled? How do we attract people into those type of roles?

People have to think about pay in the long-term too. The problem we've got today is that other sectors are able to hand out higher salaries. **Dii**

The City & Guilds Group helps people achieve their potential through work-based learning. The group consists of City & Guilds, ILM, Kineo, The Oxford Group, Digitalme and Gen2. For more information, please visit: [cityandguildsgroup.com](http://cityandguildsgroup.com)

## IN BRIEF

**Müller's Choco Banana drink**

The newest offer from Germany's Alois Müller dairy in the Müllermilch Limitiert series is Müller-milch Limitiert Choco Banana. The limited edition milk drinks are sold in 400ml bottles.

**Springfield Garlic & Herb Organic**

Springfield Creamery is rolling out Nancy's Garlic & Herb Organic Cream Cheese in the US, made from organic milk from Northwest farms and real organic garlic and herbs, while an addition of sunflower oil keeps it spreadable. It is the only cream cheese brand in the US with billions of live probiotics in every serving, according to the firm. The spread is US organic and non-GMO verified.

**Spreadable butter from Glanbia**

Glanbia Ireland now offers Truly Grass Fed Spreadable Butter in the US, made from cows that are 95% grass-fed, animal welfare approved, and free from growth hormones and antibiotics. The brand is dedicated to sustainability, transparency and progress with dairy from cows living on pasture on average 250 days a year, grazing on Irish grass, according to the company.

**Cottage cheese with everything**

HP Hood has debuted Hood Cottage Cheese with Everything Bagel Seasoning to the New England states and New York. The seasoning blend includes onion, garlic, flaxseed and poppyseed, and comes in a 16oz tub with a SRP of \$3.59 to \$3.79 (€3.28-€3.46). The cheese also offers 13g of protein per serving.

## Health and taste balance offered by Eatlean Tasty Mature Cheese



Eatlean has launched its 10% fat Eatlean Tasty Mature Cheese. With 70% less fat, 40% fewer calories and 35% more protein than standard cheddar, the product provides a healthier yet still flavoursome alternative for the 98% of the UK population that consumes cheese, Heler says.

Founder of Eatlean, George Heler commented, "For so many of us now nothing is more important than our health and the health of our loved ones. Eatlean Tasty is a ground-breaking solution for people wanting to lead healthier lives, and still enjoy the foods that they love."

Eatlean business unit director Barrie Saxby added, "With 70% less fat than cheddar, Eatlean Tasty Mature sits between the half fat cheese range and our original 3% fat Eatlean, offering a fantastic alternative for those wishing to make health gains."

Eatlean Tasty is available as 350g block, 180g grated or in 7 x 30g snack bar packs directly online at [Eatlean.com](http://Eatlean.com).

## Nuji takes inspiration from the New York chocolate cookie

Froneri's ice cream brand, Nuji, offers ice cream flavours and ingredients sourced from around the world, and now New York makes its debut in their range. Nuji New York Cookies & Cream recipe consists of chocolate cookies crushed and folded through ice cream, encased in milk chocolate with cookie crumbs, inspired by the home of the ultimate chocolate cookie. Its other flavour offerings include Salted Caramel & Australian Macadamia; Dark Chocolate & Nordic Berry; Caramel White Chocolate & Texan Pecan, and Coconut & Indian Mango. The new Cookies & Cream flavour is available in the UK at Tesco, Sainsbury's, ASDA, Co-Op and others. RRP £3.90 (€4.67).



## Fudgy cores in Peter's Drumstick ice cream

Australian ice cream brand, Peter's Drumstick, has expanded its portfolio to include a fudge range. The new ice creams will add a thick, fudgy core to Drumstick's familiar creamy base, crunchy cone, and chocolate tip, and will be available in two flavours: S'Mores and Choc & Hazelnut.

The Drumstick Fudge S'mores are an adaptation of the campfire treat, with flavours of marshmallow, biscuit and chocolate while Choc & Hazelnut offers the "can-never-go-wrong" flavour duo, topped with crushed hazelnuts.

The Drumstick Fudge range is now available from the freezer aisle of all major supermarkets in Australia.





## Tim Horton expands into ice cream

Iconic Canadian café chain has taken its café favourites and incorporated them into ice cream flavours, in collaboration with Ontario based ice cream chain, Shaw's. The ice cream pints come in five varieties — Apple Fritter, Birthday Cake Timbits, Double Chocolate Donut, Fruit Explosion and Salted Caramel Iced Capp and are all made from 100% Canadian dairy. Tim Hortons Ice Cream expands the company's already existing presence in Canadian grocery stores.



## Quicke's adds twist to its traditional cheese

Smoked Double Devonshire Clothbound Cheese has been released from UK-based cheese maker, Quicke's. A smoked twist on the classic Double Gloucester, it retains all of the territorial cheese hallmarks, with its deep orange hue, mellow flavour and creamy texture, and is made with milk from grass-fed cows and smoked using oak chips. It is available for retail in 1kg and 1.5kg cuts, as well as in 200g pre-packed wedges. Stockists can request price information by emailing sales@quickes.co.uk.



## Kids' nutrition and growth drink available in US

Israel-based Nutritional Growth Solutions has expanded into the US retail market after sealing agreements with Walmart, and online marketplace RangeMe USA, with its offering of Healthy Heights, a line of science-backed, children's protein shakes.

NGS' founders wanted to create a formula that was both safe and effective for children to enjoy and would help them grow, the company says. Grow Daily 3+, its inaugural product, was developed and tested by paediatricians as a holistic solution to nourish growing children aged three to nine years. The formula contains a precise ratio of macronutrients (whey protein, carbohydrates, and fat), micronutrients (including L-arginine, vitamins, and minerals), and comes in three flavours – chocolate, vanilla and a neutral flavour.



## DMK signs new ice cream partnerships in Germany

Ahead of this year's ice cream season, the DMK Group has licensed four new partnerships and continues to focus on the brand business, which is growing strongly in Germany.

DMK Ice Cream has already licensed the Ahoj-Brause and Treets brands as well as The Peanut Company, a brand from the Katjes Fassin Group. The cooperation will also extend to licensing the Katjes umbrella brand this year.

The group has also developed its first branded vegan ice cream, with the Katjes Grün-Ohr-Hase Eis (Green Ear Bunny ice cream).

In addition to the new partnerships, DMK has further developed its existing portfolio of licensed products. In the high protein ice cream segment, from dairy partner Ehrmann, DMK group is expanding the existing multipacks with two new variants that will be available in 500ml cups. Additionally, the Baileys portfolio has been expanded to ice cream sticks and 500ml cups.

## Platinum Jubilee strawberry yogurt

Tims Dairy marks Queen Elizabeth II's platinum jubilee with a limited-edition strawberry yogurt, in collaboration with Wilkin & Son's, creators of Tiptree jams. The yogurt combines Tims' Greek style Strawberry Yogurt with Tiptree's Strawberry with Champagne Conserve to create a celebratory summer treat for the Jubilee or even Wimbledon 2022, suggests the company. The yogurt will be launched into Waitrose and Ocado in 450g big pots and 'Green' Pots made from previously recycled plastic and card.



A bull on a dairy cattle sanctuary, which accepts male livestock to avoid then being slaughtered as veal when calves. To what extent will such ethical considerations be written into the farm to fork strategy?  
Credit: Mark Peters

The EU's farm to fork campaign overlooks the efforts already being made within the dairy industry and does not align with real-world applications, say experts.  
Liz Newmark reports in Brussels



# Farm to fork concerns

Europe's dairy production and trade must not suffer from the implementation of the European Union (EU)'s farm to fork (F2F) plans, announced May 2020, which are at the heart of the European Green Deal to "make food systems fair, healthy and environmentally-friendly," dairy experts have told *Dairy Industries International* (DII). They argue that many of its plans, for example on mandatory origin labelling and related environmental reforms, are restrictive, too expensive and will hamper competitiveness. They also ignore dairy farming's environmental benefits, such as grazing for plant growth and carbon sequestration. Detailed implementation legislation and programmes are still awaited, and are currently being drafted by the European Commission, the EU executive.

When they are released, with some formal proposals anticipated this year (2022), "Dairy farmers do not want

to and cannot be the ones to bear the costs of these reforms as they are already running a deficit with current production," Silvia Däberitz, general director, of the European Milk Board (EMB) told DII. "Additional measures... would increase the deficit," she emphasised. For Däberitz, the planned farm to fork reforms impose "very restrictive obligations" instead of relying on cooperation, and "society as a whole should pay for and participate in more sustainable practices," rather than forcing specific sectors to fund such changes.

## Foreseen impacts of F2F

To keep costs down and prices competitive, farmers would like to see progress on so-called 'mirror clauses' in production standards that have emerged from the farm to fork (F2F) proposals, Däberitz added. These clauses would ensure that products imported from non-EU countries must be of the same standard as those produced in the EU. A

lower standard means lower production costs so these imported products could be sold on the EU market more cheaply, displacing EU products. And without "strict and effective mirror clauses," food safety could also be compromised.

The European dairy trade organisation Euclait's policy advisor, Riccardo Gambini, agreed that dairy production and trade must remain feasible and not suffer from F2F implementation. He agreed that the dairy sector should be acknowledged for its role in contributing to sustainable food and climate change action.

"Costs to meet higher food safety standards compared to the rest of the world could hamper EU exports by making EU dairy products less competitive," he said, noting "additional costs associated with potential new animal welfare rules."

Speaking about F2F sections due for adoption, he singled out the EU Food Information to Consumers (FIC) regulation's review, which could be especially damaging to the industry. "If mandatory



origin labelling is applied, the sector will face supply chain disruption. This would be particularly challenging for dairy since milk and ingredients do not always come from the same place. With nutrient profiling, costs could be passed on to producers/processors to meet the set thresholds,” said Gambini.

Not only that, but nutrient profiles could also lead producers to cut down on salt or fat to meet requirements and thresholds so they can make health claims. This could affect some dairy products’ taste, including cheese, a key EU export.

### Legislation and application

Alexander Anton, secretary general of the European Dairy Association (EDA), is also concerned by the planned F2F measures. According to data obtained by the association, they could increase milk production costs by 30% and lower milk production 10% by 2030. “Our social and economic sustainability is at risk,” he argued.

Moreover, associated reduction targets proposed by the European Commission to halve pesticide and antibiotics use and reduce nitrogen by 20% by 2030, are “more of a political scenario decoupled from the realities... with no science-based assessment,” insisted Anton.

The dairy industry expects “a much more cooperative approach, based on dialogue and a few basic principles: a global and science-based strategy, that builds on the realities of our sustainability efforts,” the EDA head said.

Däberitz added that the discrepancy between what happens in practice on farms and the theoretical legislative

proposals “is a major threat to real and effective change towards more sustainable agriculture.”

Moreover, the Commission has delayed publishing a key element of the F2F programme, the sustainable food systems regulation, until the end of 2023, Anton said, warning, “We will not have a clear picture and definition of ‘sustainable food’ in all legal initiatives – like the EU marketing standards revision or the EU agri-food promotion framework, to name just two,” until those detailed proposals are released.

So, the vision is getting lost, Anton told *DII*. “With the lack of an overall impact assessment of the F2F strategy and sustainable foods regulation, there will be no elaborated full plan. Instead, the Commission will come up with the heading ‘Europe’s first climate neutral continent’ with proposals intended to get political quick wins, like mandatory origin labelling or front of pack labelling.”

### Organic ambitions

Anton particularly regrets the Commission’s “unrealistic goal” to increase the share of organic farming to 25% by 2030. “Back in 2004, the then German farming minister declared her ambition of 20% organic farming by 2010. Today, Germany is at less than 10%.” He noted further, “The organic trend is significant, but not at a path to reach Brussels’ plans.”

Eucolait’s Gambini added that the organic aim is not reflected in current consumer demand – to the extent that “in some member states, organically produced milk is currently being packaged as ‘conventional’ milk because the



EU health and food safety commissioner, Stella Kyriakides, speaks at a Farm to Fork Conference in October 2021 in Brussels  
Credit: European Commission – Jennifer Jacquemart

demand for organic is insufficient.” The EMB vice-president and farmer Kjartan Poulsen agreed the goal would be difficult, given the lack of demand. Denmark, for example, is 8% short of that goal.

### Tackling emissions

EU dairy experts also warned against tighter methane production rules, which overlook farmers’ expertise and efforts to cut methane emissions. Däberitz said that farmers fear emissions reforms will also aim to reduce dairy farming, as farmers and their livestock are often portrayed as “environmental destroyers.”

The EDA’s Anton said the current scientific basis to assess the global warming potential of methane dates back more than 40 years, calling for policy development to take this into account.

“Ruminants only add to global warming when the overall herd size is increased, and as we have reduced the dairy herd in Europe over the past years, there is no global warming effect,” he noted.

“We are proud to have significantly reduced emissions in the past decades and are fully committed to scale up the initiatives to limit our carbon footprint,” he said, citing improved animal diets, herd management, breeding, herd health and animal welfare as “just a few examples of mitigation actions.”

Eucolait’s Gambini highlighted Bovaer, a new feed additive intended to cut methane emissions, as an example of how technology can reduce the environmental footprint of the dairy sector, without damaging its competitiveness and the quality of its products. Developed by the Dutch company, DSM, it is considered effective by the European Food Safety Agency. **DII**



The EU’s ‘farm to fork’ strategy is supposed to encourage consumers to eat more fruits and vegetables. But what about healthy dairy products?  
Credit: European Union, 2021, Jennifer Jacquemart



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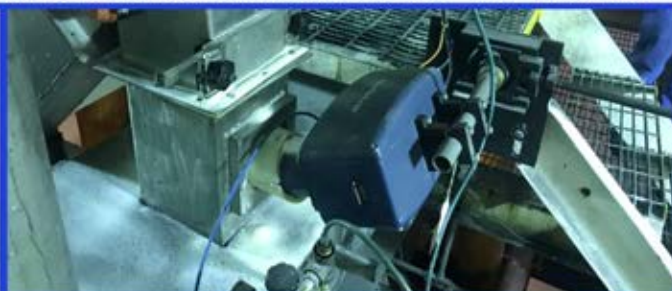


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# Looking at the label

Ingredient suppliers are responding to consumer demands with new studies and a drive for cleaner labels

The ingredients in a dairy product can range from milk to many further permutations. However focused on plant-based products consumers may be, they are opting for the less is more idea of nutrition. For example, according to Cargill's IngredientTracker EMEA, 2021, consumers expect their favourite products to feature simple and familiar ingredients, notes Aysegul Ozcan, marketing manager, texturizers at Cargill. In fact, 70 per cent of consumers said: "It's important for me to recognise the ingredients included in food." Moreover, the study found over 50 per cent of consumers stating to check the ingredient list when buying a new yogurt product, increasing to 65 per cent for plant-based dairy alternatives.

As a result, Cargill offers a range of ingredients, including fibres, stevia, starches and seaweed powder, that support clean-label formulation in dairy and also help with process tolerance and functionality. These include SimPure starches, which work in dairy and dairy alternative formulations. Tapioca-based SimPure solutions, give a long-lasting creamy mouthfeel to desserts, while corn-based products bring body and desired texture to yogurt. The yogurt can be combined with a label-friendly strawberry fruit preparation, created with UniPectine. The label friendly pectin solution that helps control syner-

esis, enhances creaminess and smoothness in fermented dairy and plant based dairy products. Its WavePure seaweed powder is based on whole seaweed obtained without chemical modification. The first product in the range was developed for gelled dairy desserts.

## A look at micronutrients

It has been scientifically proven that many micronutrients support mental well-being, cognitive performance and brain health. An inadequate supply of these micronutrients can lead to serious illness, including but not limited to depression. Nutrient deficiency is widespread among the elderly in particular. It is estimated that 35 per cent of people over 50 years old in Europe, the US and Canada have a demonstrable deficiency of one or more micronutrients. Highly stressed people also have a heightened need for certain vitamins and minerals.

SternVitamin has therefore developed new micronutrient premix concepts that support cognitive performance and mental well-being. They relieve stress and improve brain function, while also reducing the negative effects of stress.

In addition to micronutrients, further ingredients support mental health. Among the functional ingredients that positively affect mental well-being is L-theanine, which is involved in the synthesis of the 'happy hormone' serotonin, and also contributes to protecting the nervous system. As components of cell membranes in the

brain, omega-3 fatty acids keep cells elastic and flexible, and affect the viscosity and permeability of membranes. "Other functional ingredients that can mitigate stress and improve resistance to stress are the adaptogens," reports Dr. Christina Mesch, product manager at SternVitamin. "These bioactive plant substances help the body adapt to heightened physical and emotional stress situations." Adaptogens include ginseng, Rhodiola rosea and ashwagandha. The latter is also called 'sleep berry' and is used in Ayurvedic medicine for better sleep onset, inner peace and as a mood enhancer. There are also well-known healing plants like valerian, hops, passionflower, lavender, chamomile and lemon balm, which have been scientifically studied. ►

Credit: DSM





Credit: SternVitamin



To support cognitive performance, SternVitamin uses nootropics. “These substances can improve brain function, among other effects. Examples include Ginkgo biloba, guarana, yerba mate and Bacopa monnieri, also known as ‘memory plant’,” notes Dr. Mesch. Bacopa monnieri aids in memory and boosts brain functioning. A combination of L-theanine and caffeine as well as green tea are also part of the company’s line.

### Functional benefits

Another study from ingredients supplier Kerry research shows that consumers in all age groups are interested in food and beverages with functional benefits, with demand for immune support, joint health and digestive health particularly high.

The insights are contained in the company’s new eBook, “Functional Health Benefits for Every Generation,” which highlights growing proactivity around nutrition and the expansion in markets for products targeting specific life stages and other demographic categories, such as gender.

It explores the needs of three groups in particular, including millennial parents. Millennials, who are now parents to around half of children in the US, are particularly likely to carry out extensive research ahead of purchases. Another group is Young actives, a focus areas for Generation Z consumers and younger millennials that includes athletic performance, education and work. They have a holistic approach to wellness and are interested in benefits such as improved sleep. Lastly, older adults, because as consumers enter their 40s and 50s their

focus shifts, with greater emphasis on physical and cognitive health.

The research also found that demographic factors affect demand for benefits in particular applications. For example, for consumers in the older millennial category and upwards, tea and coffee are popular platforms for immune support.

John Quilter, Kerry’s vice president of ProActive Health, says, “Across all age ranges, consumers are now looking for functional benefits from their favourite food and beverages. However, it’s also true that different groups often have different needs, so an understanding of the importance of demographic factors like age and activity level can help manufacturers create on-trend products. For example, manufacturers should use functional ingredients that are supported by research as well as appealing to children’s tastes to win over millennial parents.”

Quilter said, “Kerry’s portfolio is a range of ingredient brands that can help manufacturers meet the proactive health needs of global consumers. The products BC30, Wellmune, Sporevia and Eupoly-3 are included. What unites them all is a commitment to credible science and strong clinical data. This is essential in today’s wellness markets, where transparency is a must.”

### New cultures

Rich in protein and calcium, yogurt is a staple food around the world. However, in Europe alone, 20 per cent of dairy products are lost or wasted every year – totalling 29 million tonnes, according to the United Nation’s FAO. DSM research confirms that most yogurt waste, approximately nine per cent, happens after consumers have purchased the product. Decreasing dairy loss and waste in the home can have a significant positive impact in the long-term, both environmentally and economically.

DSM, meanwhile, has launched four new DelvoGuard bioprotective cultures. The range naturally extends the shelf life of yogurts and improves both the quality

and the safety of dairy products. This launch is part of DSM’s ongoing efforts to reduce levels of food waste and the range provides better control for dairy manufacturers over post-acidification, gas production and decolourisation, as well as improvements to creaminess and mouthfeel while extending shelf life.

A key contributor to yogurt spoilage during shelf life is microbial contamination, in particular mould and yeast contamination. At the same time, shelf life needs to be carefully balanced with taste, texture, pricing and labeling requirements, while not affecting existing manufacturing processes. Maintaining natural positioning is also crucial for manufacturers. Natural is the top claim for new yogurt launches globally and more than 30 per cent of yogurt launches had “natural” claims in the last five years, according to industry analysts Mintel.

DSM’s new DelvoGuard cultures were designed to provide manufacturers with protective cultures that prevent yeast and mould growth in yogurt products resulting in a longer shelf life, without sacrificing taste or texture. The extended range includes DelvoGuard 302 and DelvoGuard 303, which offer protective properties that prevent or delay the growth of spoilage organisms by days or even weeks, even during challenging situations such as cold breaks in the supply chain. Also in the range, DelvoGuard 304 and DelvoGuard 305 have a lower post-acidification impact while still providing protection against microbial spoilage. All bioprotective cultures are easy to use and process and delivered as one-bag direct vat cultures (DVC), where they can be added into the production process at the same time as the starter culture.

### Personalised nutrition

A recently published study from Perfood in Germany, in collaboration with the University of Lübeck, Germany, demonstrates that Beneo ingredients support a personalised nutrition approach, the company says. The study conducted under real-life conditions further confirms the health benefits of Beneo’s slow-release carbohydrate Palatinose and the prebiotic fibre OrafitSynergy1. The results show that both ingredients improve blood glucose control and that the latter also beneficially modulates gut microbiota through a significant

Credit: Kerry





Credit: Beneo



Credit: Beneo

increase in beneficial bifidobacteria.


Instead of controlled conditions where all participants eat and drink in a strict and well-controlled manner during the trial, participants in this study consumed Beneo's ingredients in addition to their normal diet. The effects observed were robust even in such a heterogeneous population and were not overruled by the habitual diet and usual lifestyle.

Two dietary interventions were included in the study, targeting the support of blood glucose management, as well as the gut microbiota by increasing

the beneficial bacteria (Bifidobacteria). The participants took part in a test phase over 14 days during which, in addition to the habitual diets, over three days they consumed drinks with either 30g sucrose or 30g Palatinose twice a day (for breakfast and lunch together with the habitual meal). OrafitSynergy1 (10g/d) was added to their usual dinner for 11 days. Continuous blood glucose monitoring (CGM) was applied to evaluate the blood glucose response throughout, with stool samples collected at the beginning and end of the test phase and analysed using a gut microbiome RNA sequencing technique to measure the compositional changes of the gut microbiota.

When added to the individual diet, beneficial effects that were previously shown in controlled clinical studies could also be demonstrated in a habitual diet situation. In comparison to sucrose, Palatinose showed a lower blood glucose response, a lower and more balanced blood glucose profile for the day, plus a slow release and sustained glucose supply. The positive effects of OrafitSynergy1 supplementation were also demonstrated in this real-life situation through a significant increase in beneficial bifidobacteria and a significant decrease in glycaemic variability over time. These latest findings demonstrate that the combination of Palatinose and OrafitSynergy1, independently of each other, supports blood glucose management for improved metabolic health. Therefore, incorporating these functional ingredients as part of a healthy diet can improve the diet quality, also in the context of personalised nutrition, and contribute to overall better health.

Anke Sentko, vice president regulatory affairs and nutrition communication at Beneo comments, "These recent study results show that food choices matter and demonstrate how functional ingredients can help to support health.

"Furthermore, the demonstration of the synergetic effect of the two ingredients related to the decrease in glycaemic variability over time was particularly exciting for us: it finally confirms that microbiota composition and blood sugar management are closely interrelated. Therefore, Beneo's functional ingredients Palatinose and OrafitSynergy1 offer a holistic approach." 




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Whole milk → **TRO** → Milk concentration

Whole milk → **TUF** → Protein standardization

Separator → Cream

Separator → Skim milk

Skim milk → **TUF** → Lactose free milk

Skim milk → **TUF** → Milk protein concentrate (MPC)

Milk protein concentrate (MPC) → Hydrolysis → Milk protein hydrolysate

Cheese milk → **TRO** → Skim milk concentrate

Skim milk concentrate → **TMF** → Cream

Skim milk concentrate → **TUF** → Milk protein isolate

Standardized milk → **TUF** → White cheese → Brine bath

Fermentation → **TUF** → Soft cheese

Cheese making process → Cheese

Whey → **TUF** → Whey protein concentrate (WPC 35-85)

Whey → **TUF** → Native whey protein isolate

Native whey protein isolate → **TMF** → Fat removal → **TUF** → Whey protein isolate (WPI 90)

Whey protein isolate (WPI 90) → **TNF** → WPI or Lactose concentration

Whey → **TUF or TNF or TRO** → Whey Permeate Concentrate → Water Recovery

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# Solutions for the food industry

Manufacturers will display their ideas for production lines at Anuga FoodTec 26-29 April in Cologne, Germany

**T**he entire production format will be scrutinised at Anuga FoodTec, with manufacturers showcasing developments in the sector, ranging from conveying to fillers and turnkey systems.

Belt conveyor systems that are used in the food industry must be absolutely clean and free of carryback – that is, material that sticks to the return side of the belt. Failure to remove carryback can lead in the long term to costly problems: contamination of products, long downtimes for laborious belt cleaning, or fines for violations of food law. Flexco Europe will be presenting solutions for preventing carryback, via its FGP Food Grade Precleaner, which is easy to install and disassemble for regular cleaning and sanitization in Hall 7, Stand A011. The blades can be quickly replaced and tensioned to minimize blade wear and prevent belt damage. The FGP cleaner is suitable for belt widths of 100 to 1,500mm.

Another highlight at the Flexco booth will be the Novitool Amigo, a press for quick and easy splicing of monolithic polyurethane belts. The belts can be butt-welded right in the food manufacturer's conveyor system. The welding process is carefully controlled to create uniform connections. Service employees place the belt ends in custom templates that are supplied for the purpose and can create a reliable, high-quality splice in just a few minutes.

KHS Group will be presenting its portfolio of filling

technology and environmentally-friendly packaging systems at Anuga FoodTec in Hall 5.1, Stand B051 and C058.

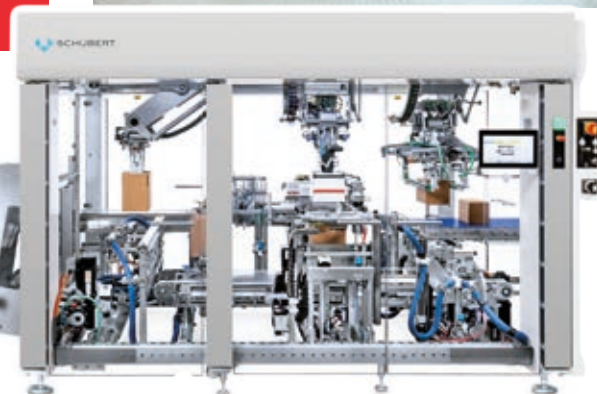
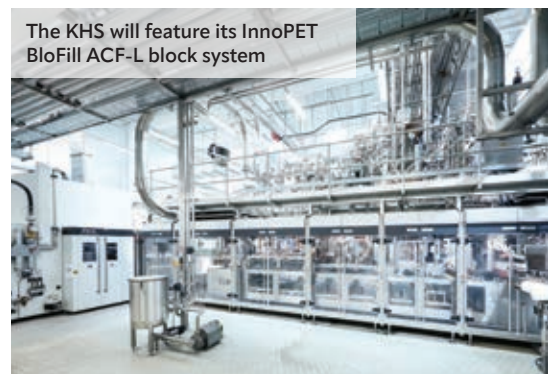
With its InnoPET BloFill ACF-L block system, the systems provider looks to the future of aseptic filling, it says. A further focus will be on the new standard interfaces for communication between KHS machines and customer IT systems. The turnkey supplier also continues to devote itself to saving on resources and protecting the environment with its holistic packaging systems, it says.

"Efficient and economic filling and packaging processes make great demands of today's lines and machines," says Dr. Johannes T. Grobe, CSO for the KHS Group. "The intelligent KHS systems we'll be presenting at this year's Anuga FoodTec satisfy these requirements on all counts."

Schubert of Germany notes that this year's show theme is digitalisation. On its stand (Hall 7.1, Stand C071) a lightline cartonpacker will pack grated cheese pouches into cartons, whereby the cartons are erected and filled with the pouches. With the two carton blank magazines, the pouches can be packed into two different types of cartons. A GS.Gate industrial gateway enables secure access to the machine and production data. "What this means is that we can carry out remote maintenance and use the data obtained to increase the machine's performance," explains Georg Koutsogiannis, senior sales account manager at Schubert.

Sesotec, meanwhile, offers the Raycon inspection systems for foreign object detection in food industry applications. In order to create even more value for

The KHS will feature its InnoPET BloFill ACF-L block system



Schubert of Germany notes that this year's show theme is digitalisation

customers, Sesotec has reinvented the concepts underpinning its Raycon x-ray inspection systems with six priorities identified: compliance, safety, hygiene, efficiency, operation and service. Sesotec product manager Thomas Hellgermann summarises the benefits of this approach: "With the 6P Framework, we are able to comprehensively address each of the central priorities of food manufacturers and processors. Safety is assured all along the line: Food products remain free of foreign bodies, processes run smoothly, product losses are minimised and profitability increases." **Di**

The Sesotec 6-Priority Framework for the Raycon family of x-ray inspection systems (Graphics: Sesotec)



Contact:  
flexco.com, khs.com,  
schubert.group, sesotec.com/  
innovative-x-ray-inspection



The Novitool Amigo Press from Flexco Europe is a quick and easy means of splicing conveyor belts. Credit: Flexco Europe

# How sugar reduction is gaining traction in new products



Consumers today have more access to information, which they are relying on to make purchasing decisions, according to Philippe Chouvy, sweetness business development manager at Cargill. Levies and taxes are being imposed in various markets, front of pack labelling schemes are starting (such as Nutri-score) and overall attention to health and wellness, further driven by the pandemic, are impacting demands in dairy, he notes. The bigger health and wellness trends of balancing, sugar-reduction (of caloric sugars and sweeteners), protein and plant-based eating are also driving demand in dairy, Chouvy adds.

**S**ugar reduction is making further inroads in dairy products. With a compound annual growth rate (CAGR) of 6.7 per cent since 2017, new product developments with sugar reduction claims are on the rise, standing currently at 9.9 per cent of all launches in 2021 with such a claim, according to Innova. This is still far behind the numbers in more traditionally strong sugar-reduced categories such as soft drinks, but there are big differences in dairy subcategories. Flavoured milks and plant-based drinks are showing the highest incidence of sugars claims in new products (25 per cent and 56 per cent in 2021 of NPD of each category, respectively, came with a sugar reduction claim). Spoonable non-dairy yogurt and ambient desserts are other subcategories with high incidence (30 per cent and 25 per cent in 2021). Dairy alternatives are showing higher incidence of sugar reduction claims versus their dairy counterparts. For

example, 12 per cent of spoonable dairy yogurts versus 30 per cent of spoonable non-dairy yogurts came with a sugar reduction claim in 2021.

Proprietary research from Cargill suggests nearly two-thirds (64 per cent) of European consumers say they're "very likely" to avoid foods with artificial ingredients. Consumers prefer nature-derived sweeteners such as stevia, which can also be used in dairy applications.

## A rising star

Stevia is a rising star in the sweetener space and is especially well-perceived among younger shoppers (13- to 34-year-olds). It is becoming a go-to solution as it provides manufacturers with a label-friendly, zero calorie option. Today's improved stevia-based sweeteners use synergistic blends of highly purified stevia compounds, tailored to specific applications, to deliver a more sugar-like taste with fewer off-notes, finding more uptake in fermented dairy applications today.

Next to the evolution to more nature-derived ingredients, customers are also paying more attention to sustainability, both in sourcing and production processes of ingredients. For example, Cargill has developed a sustainability programme for stevia sourcing. The company's stevia sustainable agriculture standard, developed in 2011, is deployed with stevia leaf growing cooperatives and utilises third party auditors. The standard identifies 137 control criteria in 13 categories, with a range of criteria such as chemical handling, banned substances, worker







health and safety, and no use of forced, convict, or child labour. Additionally, Cargill's stevia manufacturing locations are transparently audited to the Sedex sustainability standards.

For the plant-based dairy alternative category, Cargill offers nature-derived sweeteners including the steviol glycosides from stevia range, Truvia and ViaTech.

Cargill also uses the synergy that stevia has with zero-calorie erythritol, a zero-calorie bulk sweetener obtained by fermentation. The solution seems to work well in no added sugars or sugar (and calorie)-reduced dairy applications, due to the upfront sweetness, additional mouthfeel and the masking properties that it offers.

On top of this, the firm also offers other products, including soluble fibres (SweetWise) and a range of texturisers such as starches, pectin and carrageenan, which may help to optimise texture and mouthfeel and that may also boost fat mimetic properties.

### Guidelines

Meanwhile, following WHO JECFA (Joint Expert Committee on Food Additives) approval, the Codex Alimentarius (Codex) has adopted the processes of bioconversion and fermentation used for the production of Reb M into its guidelines. This addition enables PureCircle


by Ingredion to sell Reb M and a range of proprietary blends from its bioconversion process as well as Reb M from fermentation (also referred to as Fermented Sugarcane Reb M), in addition to the existing stevia sweetener and taste modifier portfolio offered across South Africa, Kenya, Nigeria, Saudi Arabia and other GCC (Gulf Cooperation Council) countries.

Most stevia varieties contain minor quantities of naturally occurring Reb M, which makes it difficult to sustainably scale the ingredient. PureCircle's advancements in agronomy science and expansive stevia experience, has enabled the company to better maximise the output of each stevia leaf, it notes. With increasing demand for Reb M and other novel steviol glycosides, PureCircle has also invested in new production technologies, including bioconversion and fermentation, with the aim of delivering more cost-effective, sustainable solutions to manufacturers.

The company's bioconversion process mirrors the plant's natural ingredient production process. PureCircle has a portfolio of non-GMO stevia leaf ingredients, produced through bioconversion, and which are clean tasting, have a sugar-like sweetness but with none of the calories.

Through its 2021 joint venture with Amyris, Ingredion has exclusive access to Amyris's Reb M produced via fermentation. Fermented sugarcane Reb M is made through a patented fermenting process, which converts sugarcane into a high purity, no-calorie sweetener. The result is a simple, sweet taste that has no bitter aftertaste, the company says. Fermentation is a low-input, low-waste manufacturing process and the 'vinasse' from fermentation is recycled as a fertiliser for the sugarcane fields.

Sue Bancroft, PureCircle EMEA, comments, "With three technologies, extract, bioconversion and fermentation, available to produce Reb M, PureCircle's range of plant-based, stevia leaf sweeteners and flavour modifiers is the most comprehensive

range available. The technologies enable us to scale up these processes and offer sustainable sourcing and favourable cost in use according to customer, sweetening targets, application needs and budgets. Having the three options now available in large parts of Africa and the Middle East, will enable more manufacturers in the region to develop cost effective, naturally sourced reduced sugar solutions." 



For more information visit:  
[cargill.com](http://cargill.com), [purecircle.com](http://purecircle.com)

# Assisting with counting

Quality control and colony counts during manufacturing aim to rule out contamination with micro-organisms such as bacteria, viruses, yeasts, or moulds. Source: publicDomainPictures@pixabay.com/nadya\_il@pixabay.com



**An automated colony count for laboratory use is now available, according to Funke-Dr. N. Gerber Labortechnik**

at any time. In this way, the lab worker retains full control while also achieving time savings.

## Key parameters

In hygiene management and quality control, the total bacterial count is one of the most important parameters. It states how many micro-organisms are contained within a sample. Depending on the type of micro-organism, there are limits that may not be exceeded in order to protect consumers from diseases such as food poisoning. As a result, samples are routinely cultured on Petri dishes in order to be able to determine the micro-organism concentration after a certain period via a colony count. Older devices that required the counting of every colony individually using a light table and microscope made this task time-consuming. "A Petri dish like this, if it is processed at the right dilution, has between 150 and 200 colonies," explains Konrad Schäfer, CEO of Funke-Dr. N. Gerber Labortechnik. "If they have to be counted manually, the person counting has to maintain their concentration and mark each colony individually. A routine task can quickly become a time-consuming endeavour."

The previous method for colony counting also does not allow for the markings to be changed, which increases the risk of some colonies being counted twice. Automatic devices are more reliable but they are generally designed to handle larger batches and require a certain amount of effort to be invest-



**R**egular colony counts are part of the day-to-day tasks of many laboratories in order to rule out the contamination of products with bacteria, viruses, yeasts, or moulds during production. To do this, Petri dishes containing the relevant samples are evaluated in order to determine the number of colonies formed. While the classic manual counting method means that every single colony has to be marked individually, automatic devices can analyse numerous Petri dishes of the same type very quickly. However, this requires time-consuming

programming and preparation that may not be feasible if there is a small number of samples amounting to just a few Petri dishes a day.

As of June 2021, help is at hand in the form of the ColonyStar automatic from Funke-Gerber. The device, which is equipped with a camera and a cordless, detachable tablet, makes the analysis of Petri dishes both fast and straightforward. The assist mode works thus: After tapping on a colony via touch-screen, other colonies of the same type are automatically recorded, marked, and counted. The selection can be corrected



ed beforehand. "As a result of their complexity, such systems are a major financial investment. On the other hand, time-consuming preparations are necessary in order to programme them because

colony diameters or maximum/minimum contrast must be defined prior to automatic operation," explains Schäfer.

### An assist mode

The ColonyStar automatic from Funke-Gerber has been developed so that the device accelerates manual counting with a semi-automatic counting mode. In order to mark 200 colonies, for example, only between four and 15 actions are necessary. The device operator retains control and does not have to rely solely on the device, as is the case with fully automatic solutions. In addition to this assist mode, the system can still be trained to identify selected colonies so that fully automatic colony counts can be conducted on predefined samples.

The device is optimised for day-to-day laboratory work and comprises a base station and a detachable tablet. The device houses the camera, the illumination unit and the sample holder. The sample can be marked and analysed via



The ColonyStar system is suitable for all Petri dishes up to a maximum diameter of 9.5cm. Source: Funke-Dr. N. Gerber Labortechnik

the tablet and the recognition software installed on it. After pressing the "Start" button, the high-resolution camera creates an image of the Petri dish and sends it to the tablet wirelessly via Wi-Fi. Individual colonies can be marked by tapping on them on the screen with your finger or a touchscreen stylus. In the assist mode, other colonies of the same type are now identified, marked, and counted.

"Colonies are considered to be the same type if they correspond to the colour, contrast, size, and shape of the selection made by the operator," explains Schäfer. This is made possible by a special algorithm, used in conjunction with the high-resolution camera image. In this way, the device can assist the operator, making colony counts easier. In doing so, the marking of a colony that is not clearly defined or recognisable can be removed or corrected at any time before the final count is saved as an image file.

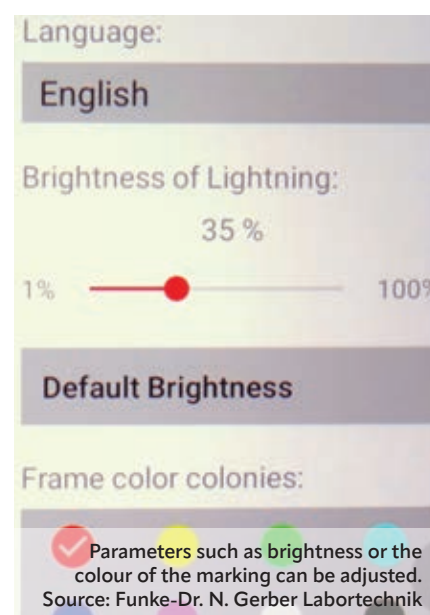
### Full automation

Additionally, the device features a fully automatic counting mode. The system can also be trained to recognise certain strains of bacteria and agar media. To do this, you can analyse 10 to 15 Petri dishes containing the same species on the same agar media and then, after the learning phase, save it as a profile, such as Salmonella or yeast. Colonies of the same type that match these can then be analysed fully automatically. The Petri dish is placed on the scanner and after the operator presses start, it displays the relevant number of colonies. Unlike purely fully automatic devices, no extensive catalogue of questions needs to be processed first because the device learns automatically while counting.

The system is suitable for all Petri dishes up to a maximum diameter of 9.5cm (3.7 inches) and can be used in all microbiology laboratories, such as in the food industry. "The reproducibility is very high at 97 per cent if the operator correctly identifies the relevant colony on the touchscreen once and has correctly saved the profile in the computer. In the microbiology field, that's a great level of quality," says Schäfer. The simple operation makes this routine task

more pleasant, including from an ergonomic perspective, because the analysis can even be conducted standing up via the detachable tablet. The optional zoom function simplifies the selection of very small or less distinct cultures.

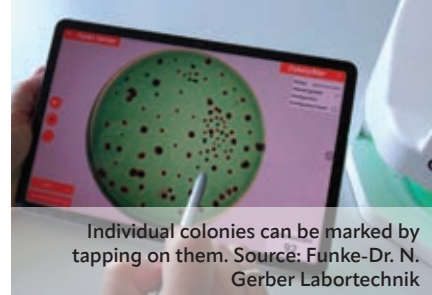
The device is also competitively priced because it does away with unnecessary peripheral programmes and software can function on a standard end device. "We are currently still in the starting blocks with ColonyStar, and other optimisations, for example its integration into existing laboratory facilities, are feasible. Its first upgrade will offer the option of porting the measurements, including the image files, as tables in a PDF via USB cable to other devices," Schäfer says. The company has already received initial positive feedback from partners testing the ColonyStar in their day-to-day work. [Dii](https://www.funke-gerber.de)



Parameters such as brightness or the colour of the marking can be adjusted. Source: Funke-Dr. N. Gerber Labortechnik



When conducting a manual count, each colony has to be marked separately. Source: Funke-Dr. N. Gerber Labortechnik



Individual colonies can be marked by tapping on them. Source: Funke-Dr. N. Gerber Labortechnik

Funke-Dr. N. Gerber Labortechnik develops and manufactures laboratory devices and the

relevant accessories. The company also plans and develops turnkey complete lab solutions for the milk processing industry, dairies, milk collection sites, cheese dairies, butter dairies, ice cream, condensed milk and powdered milk factories. For further information: [funke-gerber.de](https://funke-gerber.de)



Konrad Schäfer, CEO of Funke-Dr. N. Gerber Labortechnik

# Mind the robot



David Morgan, director of marketing at Paxiom, explains how robotic palletisers can offer advantages over manual packing



**R**obotic palletizers excel at precise product handling while loading pallets at much faster rates than manual packing. Integrating robotic technology can offer improved safety over manual methods while greatly reducing system downtime and product damage. The potential for labour savings from this automation is also impactful, whether eliminating these positions or redirecting them to more critical tasks on your line.

With all these advantages, one might think that the purchase and implementation of a robotic palletizer would be an easy decision for operations managers. But more often than not, this crucial step in the end-of-line process is the last to be automated.

We have uncovered a few misperceptions. These include the idea that the technology is too expensive right now, the nature of the work justifies using manual labour versus automation, the machine takes up too much space on the facility floor, production volume is too low for an automated solution, and the technology does not provide a justifiable competitive advantage.

## Competitive Advantage

Every company is unique. Things are done in a slightly different ways than one's competitors. Perhaps the competitive advantage is in the way a product is made or harvested. Maybe it is in the way it is mixed, flavoured or combined.

Packaging automation can also be a distinct competitive advantage. And while the most frequently automated processes like weighing, filling, wrapping and bagging may offer more visible packaging advantages, the automation of your end-of-line processes ensures a beautifully packaged product is undamaged, sorted accurately and properly protected for transport.

Improving the downstream automation with a robotic palletizer allows a company to handle more capacity upstream with fewer resources, thus improving productivity regardless of the size of the production line. If packaging is at a low volume or even if a firm is moving toward just-in-time production rates, it will realize cost savings when the palletizing is done more quickly, more safely and more accurately than its current solution. If the goal is to ramp up production from low-volume rates to high-volume rates, the savings are realised even more quickly.



Most robotic palletizers allow for easy adaptability into a current end-of-line system and their small footprint means facility space can be freed up for other uses. They also provide the flexibility and precise control needed to vary the throughput and palletize a variety of products in mixed-case configurations. Firms will be better prepared to adapt to future changes in the supply chain as a result.

Depending on where a company is based, it could actually be experiencing a labour shortage. This is happening across industries and is a challenge regardless of the desired skill

level. And if there is a deep labour pool in the region, employee turnover must be considered. The turnover rate in this area of the packaging process can be unusually high, resulting in escalating costs to replace these employees and decreased productivity while they are trained.

The math is simple: higher human resources cost plus lost production equals less profit.

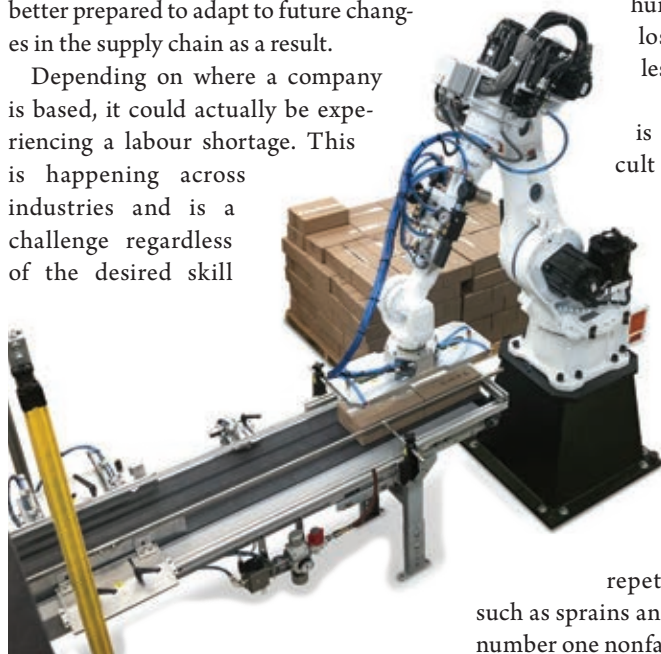
In addition, palletizing is one of the most difficult tasks employees perform. It's time consuming and it's tedious working with packages that are often cumbersome and heavy. Not to mention employee safety and losses incurred when an employee is hurt. The palletizing function exposes employees to repetitive lifting injuries such as sprains and strains, which are the number one nonfatal occupational injury.

The technology is not cost prohibitive. While it is certainly more expensive than an all-manual process, the savings realized from increased efficiency and productivity puts it within financial reach. And if the cost is compared to that of conventional palletizers, they can be integrated into most packaging operations for about the same cost, but with the potential for more rapid return on investment.

As with many other equipment decisions, the packaging automation purchase needs to make sense for the product. Some products require more conventional palletizers.

A modular addition like the Endflex Z Zag Robotic Palletizing Machine could be the right fit for an operation. If one is looking toward a fully automated, end-of-line system, there is a case erecting and packing system that includes the Z Zag robotic palletizer and is engineered to meet the specific product, facility and budget needs. [Dii](http://endflex.com)

For more information visit [endflex.com](http://endflex.com)



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# Paris hosts live cheese fest

Salon du Fromage 2022 and judging CGA produits laitiers in Paris. Jenny Deepprose reports



Jenny and her fellow judges contemplated AOP Camemberts



Arriving in Paris after two years of no competitions, shows or face-to-face cheese tasting was a tonic. The sun shone on the familiar towers of the Porte de Versailles exhibition centre. The Salon International d'Agriculture (SIA) uses all seven halls, showing off France's farm animals, food from the regions, domestic animals, agricultural machinery, gardening, and farming methods for two weeks from 26 February to 6 March.

Hall 7 is where the annual Concours Général Agricole judging takes place. All France's well known and loved products like wine, cheese and other dairy products, honey, cider, and foie gras are all scrutinised and assessed by teams of judges over a week. These judges are mainly French (only two Brits for the produits laitiers) and courses run during the year to encourage younger people, whether consumers or food industry students, to join the judging fraternity.

In 2021 the Concours took place in smaller venues all over France due to

Covid-19 restrictions, with products awarded medals but presented later. Adding coronavirus complications to previous terrorist fears, getting into the Salon in 2022 was time consuming. Men and women judges and exhibitors were segregated at the entrance gates in long queues, probably because of sensitive security searching, and then phones were scrutinised for the coronavirus vaccination passport. My British QR code from the NHS was not recognised, so I had to change queues and gates to see an infirmière (nurse), which provided me exclusive entry and gave me time for a coffee and croissant before judging.

Groups of dairy judges congregated, greeting others they knew. I met a girl from Normandy who was judging for the first time – in a rather overwhelming crowd, many from far regions of France, with professions varying from milk or cheese producers, regional dairy employees, retail managers, cheese shop owners, students and food journalists.

Usually, we queued in alphabetical order. I was holding my breath to find out my table number, dreading cream, milk or yogurt rather than cheese. Now, a machine spews out the sticky badge. In the past, an envelope included a welcome, two tickets and a gift. This time, we had to claim those bonuses after the judging.

## Come on Camembert

Table 111 saw us met by 10 white, slightly wrinkled, Camembert de Normandie AOPs. The team of six introduced themselves, with one as foreman, who wrote all our deliberations on the final marking sheet. Technically with the consigne sanitaire, we were meant to replace our masks between tastings, but looking round the rest of the tables we all obviously felt it was too fiddly. We were thanked by the chairman of the CGA, who reported from a survey that 96 per cent of French people buy produits du terroir, or specialist food products from the regions. This is what the Concours



seeks to honour, as medals make a great difference in sales.

Around 59 per cent of the judges came from provincial areas, with an average age of 49. Judges enjoyed the rewarding of excellence, the camaraderie, sharing professional opinions, and when surveyed after, 82 per cent said they'd do it again.

It's a seriously slow and concentrated business, judging at the Concours, with a page of notes emphasising the characteristics of a good raw milk Camembert, its rind, shape, smell and of course its



A selection of French cheeses was on display at the Salon du Fromage

flavour. We checked for ammonia on the base of each of the 10 cheeses one by one, and on most there was a reassuring 'farmy' nose. Then the cheese was cut open, and passed round to examine the pâte, thickness of rind, and the texture of little holes, or chalky unripeness. On the third round we tasted and savoured the cheese maker's art and skill. There are strict guidelines for AOP (Appellation d'Origine protégées), which is the EU equivalent to the former AOC standard. We commented on the taste in eight alternatives, including the terms of lactic, floral, fruity, spicy or animal.

According to some commentators, "mental gymnastics" have to be performed by the cheese maker – to mature the cheese, allowing for days of transport to retailers, and a developing ripeness for at least 20 days on shelf – this is to enjoy 'le coeur' (heart) of the cheese in perfection. AOP rules also demand that at least 50 per cent of the milk used is from Normande cows, and the curds are put into the moulds by hand (moulé à la



Business is often conducted with a glass of vin rouge on-stands

louche). To underline the importance of this cheese, one producer, Graindorge, makes nearly five million Camemberts each year, representing just 18 per cent of the volume of this appellation.

### Le goût avant tout

The by-line for this year's Concours was "Taste is everything" (Le goût avant tout) so when it came to awarding medals, we had the opportunity for discussing our taste experience and awarding final marks from 10-20. As the only British judge, but speaking French, it was quite a feat to write remarks, with details of flavour and texture in French, then to surreptitiously glance at my neighbour's score as a benchmark.

Our first cheese was the gold medallist PLN 11451: deep in flavour, made from a golden milk and matured to perfection,



Papers for packaging cheeses were available to inspect at the show

but not too coolant (runny), to put the cheese out of shape. Some of the others lacked depth of flavour, or had dryness on the rind, intensity of salt, or lacked character. Silver was awarded to a full flavoured but slightly less balanced cheese PLN 29250, and there was discussion and slight dissension for the bronze cheese, PLN 65852. It was encouraging for me to be in on this, and I felt my opinion counted.

At one point an official of the competition came and asked if we needed anything, and at least three of us said, "du vin rouge." We always had red wine to taste with the cheese, and to finish proceedings when judging in past years, which is a matter of envy from my other cheese judging colleagues at other competitions.

Monsieur explained that because of coronavirus, we had individual bottles of water on the table, but the Concours organising committee couldn't run to 1,058 personal bottles of wine (one for each judge). ▶



In the Salon du Fromage



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Hall 6, Stand D10





Checking the displays at the show



A proud fromager



## Livestock

We then went to visit the rest of the show. All the different breeds of cow are on show in Hall 1 – brushed and combed at their best for the general public as samples of the breed, awaiting their turn in the show ring, hoping for rosettes and prizes. They are milked every day of the fortnight, and the milk goes to LSDH (Dairy of St. Denis de l'Hotel) that maintains it offers a fair remuneration for the producers and a certified approach, with animal welfare paramount. The company develops and packs all types of liquid foods, including milks, creams, high protein drinks and soups. It is a great sight, seeing them process to the milking parlour at the back of the hall.


Hall 3 is like going to the whole of France on holiday – with food such as prunes from Agen, walnuts from the Dordogne, goat's cheese burnt cake, Corsican honey and brocciu, Normandy cheeses and Calvados and restaurants on site, which also feature the specialties and drinks to go with them.

Then in 2022 at last, the Salon du Fromage was in full flow, running daily from 27 February to 2 March in Hall 7.3, for professionals only. Visitors came from all over Europe, and the amazing display of cheeses and other dairy products this year included 18 new exhibitors in an area, called Discovery Village. The Salon boasts 250 exhibitors: 43 per cent of those are Italian, Swiss, Spanish, Irish and British, among others. An estimated 8,000 trade visitors were expected from 56 countries. The lively atmosphere made one's visit a kaleidoscope of wonderful cheeses, all hoping to attract buyers and distributors.



There was a general sense of celebration, and as a cheese lover I appreciated that, and am never bored by writing about it, speaking about it and eating it. Convivial discussion with refreshments on the stand has always been a feature, from apéritif time onwards, business is conducted and buyers are courted. Displays, and leaflets are back, bringing new products to our attention. There were business seminars, the compelling Lyre d'Or competition for cheesemongers presenting an amazing cheese display, and other interesting conferences about marketing and distribution.

Traditional producers such as Lincet based in Saligny have AOP cheeses including Brillat Savarin, L'Epoisses and Chaource, as well as Délice de Bourgogne, but are finding new retail markets with its triple-crème soft cheese covered with fruit pieces such as cranberry and papaya. This broadening out of the company's cheese offerings was evident throughout the show. Italian goat's milk cheese was very attractively presented, with chestnut leaves and a bay leaf on others. There was a great array of different European yogurts, a stand advertising printed cheese papers, dairy co-operatives and a very well-stocked area for Neal's Yard and the Irish Bord Bia, with information in several languages.

This is the first Salon du Fromage since Brexit, so there will be changes in price, logistics and supply. With the feast of seeing so many cheeses on show in one place covering the whole of Europe, and renewed person to person discussion, this show was a welcome oasis full of wonderful cheeses to taste and enjoy. 







Vanilla remains popular globally. Credit: Plant-Ex

# Changes in hue

The colours and flavours industry is undergoing restructuring, but continues to explore new avenues for consumer products

**C**ompanies are consolidating and buying other divisions globally in the colours and flavours industry, while continuing to expand their offerings to producers of consumer products. The ups and downs of the supply chain are also impacting the availability of colours and flavours to the market.

One such company is Plant-Ex Ingredients, which was established in 2010. It manufactures natural colours and colouring foodstuffs, top note flavours, natural extracts and food protection systems with over 80 employees. It operates in more than 49 countries. In 2018, the firm purchased the assets of RD Campbell & Co and transferred production of the flavours operation to its BRC A grade factory outside Bristol in the south-west of the UK. In 2019, it moved to create Plant-Ex Gida in Turkey. With a factory in Konya, the Turkish branch achieved industry standard accreditation BRC A grade in May 2021.

In 2021, Plant-Ex UK made a further expansion by adding an 18,000-square-foot building at the main site, Access 18 in Avonmouth UK. The new building houses a technical support facility combining four new product laboratories for the divisions in the organisation, as well as a development kitchen. The expansion also resulted in a doubling in the size of the production site, which coincides with a doubling in size of the finished goods dispatch warehouse, incorporating a 150-pallet chilled store.

In 2021, Plant-Ex opened another branch in Poland, and Plant-Ex Polska is now up and running. With support from the UK team, it has already established logistics and storage operations. EU clients can now avoid the extra delays and costs of Brexit customs issues. Having a branch in Poland is also a chance to extend sales activities in the Polish market, and other countries of central Europe.

The company has also invested €1.5 million to improve the services provid-

ed and has more than 10 per cent of the organisation's headcount working in research and development laboratories.

For 2022, the company offers the following in natural colours and colouring foodstuffs:

- Micro-milled pigment dispersions providing high colouring power in oil soluble applications but retaining a high light stability due to the original pigment structure remaining intact.
- Blue Shade Purple Carrot provides a darker hue than the traditional red shade associated with this anthocyanin, which means that the bluer shade can offer a substitute for grapeskin extract, thus removing the sulphites allergen declaration from a beverage formulation.

In top note flavours, Beurre Noisette offers the essence of butter that has been heated and taken just to the point of browning, wherein darker caramelised notes with a slight nutty hint take over the traditional dairy butter profile. Suitable for both sweet and savoury applications, this is one of 2022's most highly demanded profiles for development projects, according to the company.

Another flavour available is tonka bean, a complex profile with notes of freshly cut grass, vanilla and a slightly spicy floral nut element. This flavour hits a number of targets in the organoleptic spectrum and has been used in development projects ranging from dairy desserts to gin flavouring.

Natural extracts from Plant-Ex include tonka bean, where the extracts team has developed a process to macerate the beans and extract the essence, which is then spray dried into powder for ease of storage and transport. The aroma is an exotic, nutty vanilla. Another product is vanilla extract, which has been impacted by a variable market. Five years ago, vanilla beans were trading at record highs of US\$500/kg, and availability was extremely scarce, which prompted a move for manufacturers to vanilla flavours produced using synthetic or natural vanillin. Now, vanilla beans are in plentiful supply and the rate has halved, whereas availability of vanillin has gone into free-fall and prices have rocketed. High quality, high strength extract with that slightly smoky bourbon note is making a comeback.

The two years of Covid-19 saw a fall in new product developments as many businesses focussed upon core lines and activity – there is now a new dawn of



Plant-Ex is investing in R&D laboratories



tastes and demands and manufacturers are looking beyond the traditional notes. The issue that is now most prevalent is the restricted availability of some raw materials due to the effect of less planting, harvesting and production during the pandemic. Residual supply chain stocks have been used and lower stock availability is going to be an issue until the second half of 2022, according to Plant-Ex.

## New blue

Another company offering new colours is start-up Gavan of Israel, which has created natural blue colourings for hot and cold drinks by proprietary technology. Gavan developed a method for extracting a natural, pure blue that delivers high performance and high stability, it says.

Derived from spirulina, this new blue holds up under high-heat processing and in low pH, enabling full pasteurisation. The platform allows for a full spectrum of stable shades of blue. The new colouring formulation is ideal for hot beverages such as tea and coffee as well as functional drinks and sport drinks. Such products typically require specific production parameters, including infusion in boiling water or acidic medium.

"Both synthetic blue dyes and plant-based blue colouring have regulatory, stability, intensity, or price challenges," says Yael Leader, head of product for Gavan. "The main barrier to creating food formulations with natural colours is stability – the ability to overcome formulation challenges and ensure vibrant and consistent true blue throughout the product's shelf life."

"A growing trend in beverages is fortified drinks with high number of vitamins and minerals," adds Leader. "These ingredients can react with the pigment and accelerate the colour-degradation process, cause fading, or create a complex binding of pigments and minerals that can deposit sedimentation in the final application."

Gavan's non-GMO technology extracts and optimises the colourant gently, without damaging the source, and enables the extraction of multiple compounds from the whole spirulina, without waste. The technology protects the colourant from fading, even at pH as low as 3.0 or when pasteurised at 90°C for 30 seconds. In addition, the platform's control over particle size offers improved stability throughout the final product's shelf life.

## Acquisition

In the US, Givaudan completed the acquisition of DDW, the Color House, a natural colour company. The acquisition enabled Givaudan to become the number two global player in natural colours, the company says. Headquartered in Louisville, US, DDW is a privately held company, with 12 manufacturing facilities around the world and 315 associates. Founded in 1865, the company has developed a strong market position from its origins in the brewing industry through its capabilities in caramel colours and for the last 20 years, having a focus on natural colours for the food and beverage industry.

Louie D'Amico, president of taste and wellbeing at Givaudan says, "The acquisition of DDW further strengthens our leadership position in the colour business globally. We are confident that our complementary portfolio and capabilities will deliver a compelling valuable proposition to our customers across segments and in key markets, enabling us to co-create multisensorial food experiences."

The terms of the deal have not been disclosed and Givaudan debt funded the transaction. DDW's business would have represented approximately US\$140 million of incremental sales to Givaudan's results in 2020 on a *proforma* basis.

## No longer permitted in EU

Also of interest on the colouring front, the EU Commission Regulation (EU) 1022/63 has declared that titanium dioxide, or TiO<sub>2</sub>, can no longer be used as a food colour additive in the European Union.

Titanium dioxide (E171) is a naturally occurring mineral that is bright white in appearance. Its chemical structure and particle size make it useful for whitening or creating opacity in food applications. These characteristics often make it difficult to substitute.


As part of the re-evaluation of all food additives in 2016, the European Food

Safety Authority reviewed the safety of titanium dioxide and considered it safe at the current usage levels but recommended further studies be carried out. Additional studies were carried out leading to the French authorities suspending its use as a food additive in France from the beginning of 2020.

EFSA reviewed the French work and said it "does not identify any major new finding that would overrule the conclusions made in the previous EFSA scientific opinion" but awaited new data that was being generated by the manufacturers. With the new information, EFSA concluded that E171 can no longer be considered as safe when used as a food additive.

While EFSA is responsible for risk assessment in the EU, they can't create regulations. Risk management is the responsibility of the European Commission and member states, who discussed the outcome and appropriate measures. They determined that, as there was no immediate health concern linked to titanium dioxide, the usual procedures would be followed.

Titanium dioxide is also used in medicines, such as tablets. Since the permitted list of colours in medicines is based on the list of those permitted in foods, to avoid disruption to the supply of medicines, it will remain on the list of permitted colours, but with no permitted food uses. It will be reviewed in three years' time.

Finally, as the UK is no longer a member of the EU, this legislation does not apply to the United Kingdom. Instead, the UK experts are in the process of reviewing the scientific data. Therefore, the legislation affecting titanium dioxide is currently unaffected in the UK and titanium dioxide can continue to be used there. 

Gavan offers new blue hues for hot and cold drinks



# What's next in product packaging

Our roundup of new, sustainable developments in the dairy sector

**W**hat makes a good package? Nowadays, it should have decent environmental credentials to go along with its ability to protect the products inside. This runs from the sleeves that cover bottles to butter wrapping.

For example, Emsur of Spain, by way of its technology innovation centre Innotech, has developed Ecoem-Sleeves, a range of sustainable shrink sleeve solutions for bottled carbonated drinks, water, juice or drinkable yogurts.

The advantages of bottle sleeves include providing a key element of product differentiation on shelves, displaying strategic brand messages or nutrition information on the product's contents and enhancing consumer added-value perception through innovative designs, materials and printing.

In the current processes the sleeves are removed from the bottles at the washing stage to avoid contamination of the PET flakes, which are later used in the post-consumer recycling flow.

In the new range, different types of sustainable solutions are provided, including the Ecoem-Full PET sleeve, which features a shrink sleeve solution based on a combination of films and washable inks designed to simplify the recycling process by avoiding any type of residues or contamination. Thus, it avoids clumping or interruption in the drying and decontamination process.

In addition, this product can be manufactured with post-consumer recycled content and has APR certification for washable inks, preventing discolouration of the flakes from the recycled PET bottles.

Another of the products in this new family is Emfull, a polyolefin-based sleeve option whose floatability properties allow the sleeve to be separated directly from the bottle during the washing phase of the recycling process.

Any other material can be used in combination with these bottles due to the option of micro-perforation, which means that the bottles are also recyclable with the aid of consumer interaction.

Emsur has been authorised by the DPG-System set up in the German market to fulfil the mandatory deposit on one-way drinks packaging, as per the requirements of the German Packaging Ordinance to promote circularity and recyclability.

## No aluminium

SIG for its part has launched Signature Evo, aluminium-free full barrier packaging materials for aseptic carton packs. These extend SIG's lower-carbon aluminium-free packaging materials, already available for plain white milk, for wider use with oxygen-sensitive products such as fruit juices, nectars, flavoured milk or plant-based beverages.

"By extending our Signature portfolio with Signature Evo – the world's first aluminium-free packaging materials for aseptic cartons with full barrier protection – we are taking the next step in our aluminium-free journey," says Ali Kaylan, SVP Innovation at SIG. "Sustainable innovations like this are central to SIG's commitment to partner with customers and go Way Beyond Good for people and the planet."

By eliminating the need for an aluminium foil barrier layer, SIG's combibloc Ecoplus cut the carbon footprint of SIG's standard packaging material by 27 per cent when launched in 2010. Signature 100 cut this further in 2017, offering a 58 per cent lower carbon footprint than SIG's standard packaging material by linking the polymers to 100 per cent renewable forest-based materials via a certified mass-balance system, based on ISO-compliant life-cycle assessment CB-100732c for Europe.

Now, Signature Evo packaging materials are expected to offer a similar carbon footprint reduction to combibloc Ecoplus, to be confirmed through an independent, critically reviewed, life-cycle assessment. Like all SIG packs, it is fully recyclable in existing recycling streams.

With barrier properties comparable to standard aseptic cartons that include an aluminium foil barrier layer, the packaging materials ensure that even oxygen-sensitive products are protected over long periods of time without the need for refrigeration. This enables customers to bring the environmental benefits to many more food and beverage categories.





The packages will initially be launched in the combiblocMini portion-sized format before being extended to other sizes. It is suitable for both oxygen-insensitive products such as plain white UHT milk and sensitive products like fruit juices, flavoured milk or plant-based beverages.

## Cheese

With brand owners keen to use lightweight packaging without compromising on barrier properties, packaging products that understand the relationship between the materials used in top and bottom films can help reduce time to market and improve shelf life.

Barrier films with EVOH and PE layers are a popular packaging solution for cheese and offer a suitable atmosphere inside the product, keeping it fresh and guarding against unwanted moisture that can damage the product. However, these materials together can be considered excessive for cheese packaging, most notably because PE layers make them hard to recycle in standard collections.

Retal Baltic Films offers a mono APET solution for dairy packaging, which is useful for cheese applications as it is both lighter in weight than EVOH and PE layered packaging, saving on transportation costs, but can also be easily recycled in standard collections.

Violeta Rusecka, sales manager for Retal Baltic Films, explains, “Mono structures with APET suit cheese packaging; we are already seeing demand for this product across dairy and food applications and, to successfully accommodate

this, we have established a dedicated business unit. We have experience in rigid film production, our flexible films capabilities complement this and including top lidding films in our portfolio allows us to offer a wider solution to our customers across Europe. We’re focused on converting flexible packaging; we’re producing top lidding films for APET trays and other flexible solutions such as VFFS, HFFS, sachets and pillow bags. We offer roll to roll printing, with possibilities to process the material further.”

The growing trend for the use of mono films in the dairy industry is driven by CSR regulations as well as performance, with the ease with which materials can be recycled sitting next to the barrier properties. Rusecka continues, “The downgauging of the packaging weight instantly saves packaging costs and, later, plastic import taxes. Mono materials are a way to support sustainability goals across the whole supply chain. We’re also working on barrier mono APET solutions with top lidding films and tray-to-tray solutions; the goal is to help our customers to achieve a circular economy by closing the loop of their product packaging.”

Retal Baltic Films is currently supplying its mono APET films to customers in the cheese packaging sector in Norway, Germany and Poland, with its annual capacity of 25,000 tons seeing upgrades in capacity during 2022. The company’s mono APET films can be sealed with mono BOPET lidding film when packaging the product, making them fully recyclable as they are the same viscosity, and both are mono materials.

Rusecka concludes, “Our form-fill-seal testing line means we can test the performance of the top and bottom films before they get to customers’ production lines, so the peace of mind in using sustainable solutions like mono APET for dairy products that can be easily recycled is assured, as the two materials work well together.”

## Better for butter

Packaging supplier Wipak UK for its part is launching a recyclable paper wrap for butter, for recycling at kerbside in the British paper waste stream. It offers a 68 per cent carbon footprint reduction versus standard wraps (aluminium/low-density polyethylene/paper laminate).



Wipak

Made from renewable, FSC-certified paper, the decorative butter wrap is aluminium-free and covered in advanced, ultra-thin natural coatings, which have excellent oxygen and water vapour barrier properties compared to standard paper, as well as superior grease resistance.

“Most butter wraps in the UK market are made of parchment paper or a grease-resistant paper that is commonly made into composite laminates with aluminum and polyethylene,” explains Wipak UK’s technical development manager, Keith Gater. “Although made from renewable resources, coated parchment papers do not promote a circular economy as they’re not easily recyclable.

“Unlike existing butter wraps, which are complex material structures, our consumer-friendly paper solution is fully recyclable in the kerbside paper and cardboard waste stream once it has been cleaned. What’s more, it maintains the look and feel of a traditional butter wrap, can be printed with brand imagery, and runs on existing butter wrap machinery.”

Having successfully passed shelf-life trials following packing on automated wrapping lines, Wipak UK’s recyclable butter wrap has also scored an A+ rating in recycling tests (CEPI’s recyclability laboratory test method version 1), carried out by the BioComposites Centre at Bangor University in the UK. “This classification is the highest possible score that can be achieved for paper recycling efficiency, whereby the pulp recovery must be a minimum of 98.5 per cent,” continues Gater. “Our wrap is also compliant with UK-set guidelines for claiming paper recyclability, which require a minimum paper content of 85 per cent.”

The butter wrap is one of several new development projects using Wipak UK’s new combi laminator, part of a recent machinery upgrade. “With growing pressure from consumers, brands and retailers need to take action, with sustainable packaging solutions that challenge traditional methods,” Gater says. [Dii](#)



# A **bulk** inspector

The measurement of bulk materials can present issues in manufacturing. Siebtechnik Tema has developed a machine to assist



The Bulkinspector enables automated measurement of the skeletal density of bulk materials for the first time

Precise measurement of the (skeletal) density of bulk materials and other solids to determine the correct parameters for production or further processing still represents a challenge for personnel and technology. At the same time, the degree of precision in determining this data often affects the profitability of the process, especially with small quantities and expensive materials, since too many rejects already entail high costs when processing starts.

German company Siebtechnik Tema has now addressed this problem with the development of a gas pycnometer that

fully automatically measures the volume and mass of a solid with high precision. The Bulkinspector provides the kind of safety in process preparation that is needed for trouble-free production and further processing, the company says.

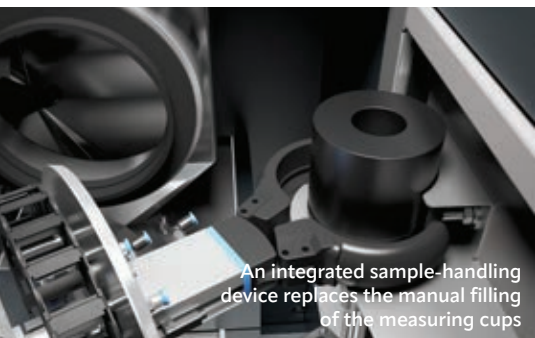
In addition to its precision, the machine is primarily characterised by the fact that it measures both the mass and volume of the solid fully automatically.

Unlike older pycnometers, the sample is inserted into the measuring cell by means of a sample-handling device instead of manual filling.

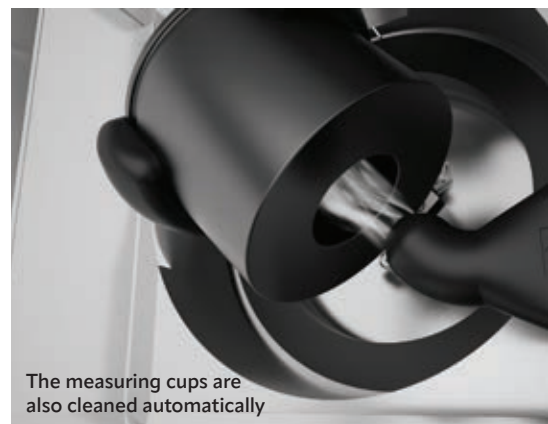
Using a sample magazine, various substances can be analysed in a very short time and without any human intervention.

After calculating the density from the parameters volume and mass in the Bulkinspector, the handling device removes the respective measuring cup and transports it to the integrated emptying device, where the cup is cleaned using compressed air. After that, it is ready to receive the next sample. Since the volumes of the measuring cups and the samples must match each other for precise measurement, the fully automatic gas pycnometer works with a selection of different measuring cups with predefined volumes, which are kept in parking positions inside the device.

The interior of the insulated system housing is covered with Peltier elements and can be heated or cooled as required to keep the temperature of the material constant for the measurement. In addition to the integration of further technical features, including an automatic calibration facility, the Siebtechnik Tema engineers paid particular attention to reproducible measured data with low standard deviation when designing the machinery, both with regard to the mechanical measuring structure and also in the selection of the sensors.



An integrated sample-handling device replaces the manual filling of the measuring cups



The measuring cups are also cleaned automatically



The control of the Siebtechnik Tema system was designed to be intuitive

Operation of the device is carried out via a supplied tablet on which an app integrates the user into the settings of the Bulkinspector by means of a user-friendly interface. This interface can be used, for example, to make the basic settings of the device, to set individual recipes for different samples or to manage measurement protocols and output them via WLAN. In addition, the control system supports the division into password-protected operator levels and the on-demand request for required spare and wear parts directly from the manufacturer. **Dii**



For more information, visit [bulkinspector.com](http://bulkinspector.com)



# Ishida installs presence in Poland

Ishida Europe is opening a Poland office in Katowice, as part of its wider EMEA strategic plan. Poland provides one of Europe's largest poultry and meat markets and Ishida's investment looks to tap into this growing sector as well as ensure they provide sales and support for Ishida key account customers and channel partners in the region.

Mike Cairns, Ishida Europe sales director, said that with automation now an increasing market driver, Ishida's approach towards customer centric solutions, coupled with its in-depth engineering and project execution capabilities would provide clear differentiators for the company in the poultry and meat sector.

For more information visit [ishidaeurope.com](http://ishidaeurope.com)



# ICS Cool Energy expands European fleet

Manufacturing temperature control solutions company, ICS Cool Energy, is increasing its investment in its European rental fleet as part of its 2022 target of growing its entire rental fleet by 20% since 2019.

ICS Cool Energy will also expand its holding stock of i-Chiller units for fast equipment sales deliveries. The i-Chiller, unlike chillers designed for HVAC, is specifically built to cope with the rigors of manufacturing and critical processes.

The growing hire fleet will be mainly stored in the recently modernised and expanded central depot in Southampton, UK, backed up by the depots in Bradford, UK and Germany, the Netherlands and France.

ICS Cool Energy solutions are available for short or long-term hire, as well as part of the FLEX Membership, a long-term, exchange programme.

For more information visit [icscoolenergy.com](http://icscoolenergy.com)

# ATS launches new jar lidding range

A range of state-of-the-art jar lidding machines has been introduced by ATS Packaging Machinery, extending its capping solutions for the UK food and drink sector.

The new FBL-150, 350 and 500 models provide automatic placement and tightening of metal Twist-Off (TO) and Press-on, Twist-Off (PT) closures onto glass jars and bottles with a vacuum seal. Between the range of machines, they can handle containers with neck sizes from 27mm to 110mm at speeds of up to 500 jars per minute. They can also be supplied with an accompanying vertical caps sorter-feeder for an all-in-one feeding and lidding solution.

The new range is being supplied by food packing machinery manufacturer FBL Food Machinery, based in Parma, Italy, along with its complete range of pasteurisers and filling machines.

For more information visit [ats-packaging.com](http://ats-packaging.com).



# SPX Flow unveils water saving homogeniser

The Homogeniser Water Recycling System (HWRS) is designed to recycle up to 97% of the water used by homogenisers. Traditionally, a continual flow of water gets supplied to homogenisers to cool the transmission oil and lubricate the plungers. The HWRS technology recaptures that water, sanitises and chills it, then returns it to the homogeniser, saving up to two million gallons each year.

The HWRS has met the drinking water regulatory standards set by the Pasteurised Milk Ordinance (PMO)

and can be used with new and existing homogenisers. It is also compact in size at 21 x 32 inches (533.4 x 812.8mm) and has its own control system, including fail-safe features that would default to fresh water without causing downtime.

For more information visit [spxflow.com/hwrs](http://spxflow.com/hwrs)



## Virtual Diary

### APRIL

#### California Dairy Sustainability Summit

**Date:** 12-14 April

**Contact:** [cadairysummit@mosaicevents.com](mailto:cadairysummit@mosaicevents.com)

**Web:** [cadairysummit.com](http://cadairysummit.com)

### MAY

#### Virtual Cheese Awards

**Date:** 13 May

**Contact:** [enquiries@virtualcheeseawards.com](mailto:enquiries@virtualcheeseawards.com)

**Web:** [virtualcheeseawards.com](http://virtualcheeseawards.com)

### ONGOING

#### Dairy in Discussion

**Contact:** Dairy UK

**Web:** [buzzsprout.com/1794161](http://buzzsprout.com/1794161)

#### The Dairy Show Podcasts

**Contact:** World Dairy Expo

**Web:** [worlddairyexpo.com/pages/The-Dairy-Show.php](http://worlddairyexpo.com/pages/The-Dairy-Show.php)

#### Let's Talk Dairy

**Contact:** Teagasc, Ireland

**Web:** [teagasc.ie/news--events/daily/dairy](http://teagasc.ie/news--events/daily/dairy)

#### AHDB Online Events & Webinar Archive

**Contact:** AHDB

**Web:** [ahdb.org.uk/webinars](http://ahdb.org.uk/webinars)

#### The Dairy Download

**Contact:** International Dairy Foods Association (IDFA)

**Web:** [idfa.org/thedairydownload](http://idfa.org/thedairydownload)

#### DairyPod

**Contact:** Dairy Australia

**Web:** [dairyaustralia.com.au](http://dairyaustralia.com.au)

## Live Events Diary

### APRIL

#### Dairy Innovation Summit

**Date:** 5-6 April

**Location:** Copenhagen, Denmark

**Contact:** Arena International

**Web:** [arenainternational.com/dairy](http://arenainternational.com/dairy)

#### Dairy-Tech

**Date:** 7 April

**Location:** Coventry, UK

**Contact:** RABDF

**Web:** [dairy-tech.uk](http://dairy-tech.uk)

#### Anuga FoodTec

**Date:** 26-29 April

**Location:** Cologne, Germany

**Contact:** Koelnmesse

**Web:** [anugafoodtec.com](http://anugafoodtec.com)

### MAY

#### Nordic Dairy Congress

**Date:** 19-20 May

**Location:** Malmö, Sweden

**Web:** [nordicdairycongress.com](http://nordicdairycongress.com)

#### Packaging Innovations & Empack

**Date:** 25-26 May

**Location:** Birmingham, UK

**Web:** [packagingbirmingham.com](http://packagingbirmingham.com)

### JUNE

#### International Cheese & Dairy Awards/ Love Cheese Live

**Date:** 30 June-2 July

**Location:** Stafford, UK

**Web:** [internationalcheeseawards.co.uk](http://internationalcheeseawards.co.uk)  
[lovecheeselive.co.uk](http://lovecheeselive.co.uk)

## Have a diary item you'd like to share?

You can upload your event and logo to our website [dairyindustries.com/events-diary](http://dairyindustries.com/events-diary)  
or send to [suzanne@bellpublishing.com](mailto:suzanne@bellpublishing.com)

*All events were still scheduled to take place at press time.*



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# A working day...



MONA  
DAIRY

Ronald Akkerman, co-founder and CEO



## **Q. What in your background prepared you for your current role?**

My background is in agriculture and I have 30 years of experience designing and building dairy factories across Europe. I have spent more than 25 years in the sector and have co-developed several major businesses. I like to think with my Dutch origins, I bridge UK and continental cheese production.

I co-founded Mona Dairy with David Wynne-Finch and lead the business as CEO. I am focused on building and growing a team to drive Mona Dairy forward and achieve our goals.

## **Q. What was the impetus behind building Mona Dairy? Why develop it on Anglesey?**

The core aim of Mona Dairy is to collaborate with local dairy farmers and to provide more transparency in terms of milk pricing. Anglesey and the wider North Wales area is a great milk field, as our co-founder David Wynne Finch operates several dairy farms in North Wales. It will be looking to form partnerships with new farms once production commences.

We can access milk supplies from sustainable, local, Welsh farms, including organic, to make a variety of cheeses from Cheddar and Territorials to continentals such as Gouda and Edam. Single farm milk can be used to create bespoke products.

We can produce both brine and dry salted cheese, as well as varying the fat content and cheese shape, from UK and EU standard blocks to round cheese. We can also include additional ingredients such as herbs and spices. It is opening in the Spring of 2022. The project has been several years in the planning and two years in construction.

## **Q. Where do you expect to have your largest export markets?**

The EU, but also the US, Canada and Australia, as well as Asia. We're currently receiving expressions of interest across a variety of markets.

## **Q. What about domestic markets?**

Approximately 50 per cent of our volume will be sold to domestic retail and foodservice customers. Mona is operating on a

make to order model, whereby we process different aligned milk streams into customer specific products, British and continental varieties.

## **Q. How much do you expect to be producing over the next year?**

The 25,000 square foot, £20 million (€24.1m) cheese factory is expected to produce around 7,000 tonnes to start with, growing to 12,000 tonnes over the next year. Our ambition is to grow to approximately 35,000 tonnes over the next five years.

The site runs entirely on renewable energy and has circular systems for inputs including water and heat. About 100 jobs are being created.

## **Q. What do you consider your greatest achievement/challenge?**

The construction of Mona Dairy is an ambitious project, combining the forefront of engineering, technology and sustainability so has been a complex (yet exciting!) build. We have had some challenges around lead times and logistics for the factory elements brought about by Covid-19 impacting the supply chain. However, the project is nearing completion and will soon be ready to go.

We have just employed a new HR manager, Sarah Croud, who we welcome to lead the charge recruitment wise and we are now recruiting for a number of initial roles. We are working on ensuring our brand and ethics come across in our recruitment process, and that we are offering fair employment packages to attract the best staff. It's a great opportunity to provide local employment; where we can, we are planning on offering training where there might be a skills gap as well as bringing new talent to the area for specialist roles if required.

## **Q. What does a typical day look like for you?**

My day is usually split between leading and supporting our team and interacting with suppliers, customers and stakeholders.

## **Q. Outside of work, what are your hobbies/interests?**

I enjoy working with dressage horses. 



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