

I N T E R N A T I O N A L

DAIRY

January/February 2024

magazine

PROCESSING | INGREDIENTS | PACKAGING | IT | LOGISTICS

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2024: Turning point in the dairy market



Monika Wohlfarth

CEO, Zentrale Milchmarkt Berichterstattung GmbH, ZMB, Berlin, Germany

It is not only the global political situation that is changing, but also the driving forces on the dairy market. Almost ten years ago, the expiry of the milk quota in the EU and the question of whether production would be unleashed were major topics. In the meantime, the reality has changed: supply is indeed increasingly becoming the determining factor for market development, albeit not in the form of overproduction - but stagnation! In the longer term, declines are even likely.

In fact, milk production in Europe and the world's other major export regions has been stagnating for three years now. At the end of 2022 and in the first half of the year 2023, production rebounded against the downward trend under the influence of previously unimaginably high milk prices and grew again for a few months. These were purely windfall effects, which were also boosted by the less extreme weather conditions in large parts of Europe compared to previous years.

With the normalisation of prices in the course of 2023, the volume of milk has fallen below the previous year's level again. Milk supply in Germany and the EU as a whole is expected to shrink in 2024. In Germany, 2.5% fewer dairy cows were counted in November 2023 than a year earlier. Higher milk yields will probably not be able to compensate for the reduction in the herd. In any case, more milk producers are giving up - not least due to increasing animal welfare requirements and a lack of succession on farms. Even in milk-rich countries such as France and the Netherlands, less raw material is likely to be supplied than in 2023. Even in Ireland, where the largest increase was observed in the last decade, growth has come to a halt. In 2023, there was a decline of around two percent for the first time. This means that the historic peak in milk production is also likely to have been exceeded on the Emerald Isle. In the world's most important export countries, milk production has also stagnated since 2021.

Climate challenges, more environmental regulations, rising production and energy costs and labour shortages are hampering growth. In Germany, politicians will continue to tighten the cost screw for 2024, particularly for energy and transportation. The already above-average costs for the entire value chain will continue to rise. The protests in December and early January show that nerves are on edge.

Demand on the global market is also no longer growing as in previous years. However, the market remains balanced due to stagnating supply. China's imports of milk powder - by far the largest buyer in the world - fell noticeably in 2023 for the second year in a row. Whole milk powder imports have roughly halved compared to 2021. Nevertheless, prices for dairy products remained at an above-average level. Even though the all-time price records of the previous year could not be maintained, milk prices in Germany reached their second-highest level in post-war history in 2023. A similar drop in demand was followed by a sharp price slump in 2014.

The year 2024 begins with improved prices in most product categories and low stocks of dairy products. This lays the foundation for a firm market trend in the new year. If the global economy recovers and demand for dairy products on the global market picks up again, prices for dairy products may have plenty of room to rise. However, it remains to be seen whether this will happen as early as 2024

CIRCULARITY DESIGN

SIG wins the 4evergreen award

SIG Terra Alu-free + Full Barrier – SIG's full barrier packaging material for aseptic carton packs with no aluminum layer – has earned the Design for Circularity award of the 4evergreen Alliance 'Circularity Success Stories' initiative. The Palurec PolyAl recycling plant – in which SIG is a major investor together with industry partners Elopak and Tetra Pak – has been awarded the Circularity Best Practices award.

4evergreen is a cross-industry alliance of over 100 members, including SIG, representing the entire lifecycle of fiber-based packaging. The goal of the alliance is to reach a 90% recycling rate for fiber-based packaging in Europe by 2030. Its awards for Circularity Success Stories honor individual or collective projects and initiatives that are pioneering circularity and fiber-based packaging with the support of 4evergreen tools.

SIG Terra Alu-free + Full Barrier, one of the latest developments from SIG's sustainable innovation pipeline, is the world's first full barrier solution for aseptic cartons with no aluminum layer that can be used with oxygen-sensitive products, such as juices. With barrier properties comparable to standard aseptic cartons, SIG Terra Alu-free + Full Barrier ensures that food and beverages are protected over long periods of time without the need for refrigeration. The award recognizes the impact of this solution for the entire packaging industry, and the food and beverage sector.



SIG wins the 4evergreen award (photo: SIG)

NEWS



ProCera Natural is the world's first completely natural cheese wax (photo: Producan)

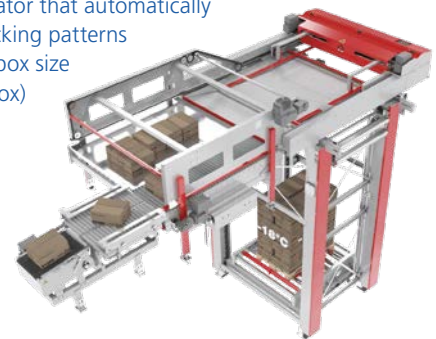
PROCUDAN

The first natural cheese wax in the world

A newly-developed product now makes it possible to mature and package cheeses in a wax that is 100% natural. The newly developed ProCera Natural cheese wax possesses all the familiar characteristics of the waxes that are currently used but uses no fossil raw materials. ProCera Natural was developed by Danish cheese wax manufacturer Procudan A/S and tested in collaboration with leading Scandinavian dairies. The patented recipe consists among other things of beeswax. All the other ingredients are made from materials of natural origin.

NEWS

The Qimarox HR8 features a smart pattern generator that automatically generates stacking patterns based on the box size (photo: Qimarox)



QIMAROX

Stable pallets without collapsing boxes

Qimarox has expanded its product portfolio with a palletizer for frozen foods (IQF Products). The Qimarox Highrunner HR8 palletizer is capable of stacking boxes of frozen foods into sturdy and stable pallets, even if they are not form-fixed or not fully filled. The unique pattern generator allows easy generation of new stacking patterns without the intervention of a software specialist.

Patented technology used to form pallet layers makes it possible to adjust the spacing between boxes to the nearest millimeter. As a result, all boxes of frozen products can be stacked without problems, even if they are not completely formable

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Challenges in everyday dairy

Automation as the answer to the shortage of skilled workers



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In the cheese industry, various companies face a variety of challenges that affect efficiency and profitability. One of the central problems is the recruitment and retention of qualified employees. The shortage of skilled workers in the industry not only leads to intense competition for talent, but also to rising wage costs and downtime due to staff turnover and vacation periods.

It is particularly difficult to motivate young workers to work shifts. Here it is crucial to create incentives and make working conditions as attractive as possible. The motivation for further professional training is also of great importance in order to make the best possible use of existing staff and expand their qualifications.

In addition to personnel costs, costs for resources such as electricity, water and cleaning agents are also rising. In order to remain competitive, continuous optimization of production processes is essential. Kalt Maschinenbau has already taken significant steps in this respect, but there is always room for further improvement.

Manual interventions in the production processes not only lead to quality fluctuations, but can also cause hygiene problems. However, consistent product quality is crucial to maximizing profitability and gaining and maintaining customer confidence.

Solutions for the cheese dairy

Kalt has established itself in the cheese industry as a pioneer for innovative solutions to meet production challenges and improve the efficiency and quality of cheese production. Some outstanding technologies that have been developed in this context is the highly evolved thickness measuring probe in the cheese vat, as well as the cassette press for pressing the cheese.

Thickness measuring probe, necessary in every cheese vat

The thickness measuring probe is the decisive instrument for cheese production, it measures each batch in line and thus selects the optimum cutting time. The settings are made independently of individual employees and shifts. During commissioning of the probe, the Kalt Cheese Technologists sets the optimum parameters, so as no employee has to take samples or check them manually. This level of precision contributes significantly to the quality of the end product. This not only optimizes the yield, but also keeps the quality constant. The dry mass of the cheese can be stabilized thanks to the measurements.

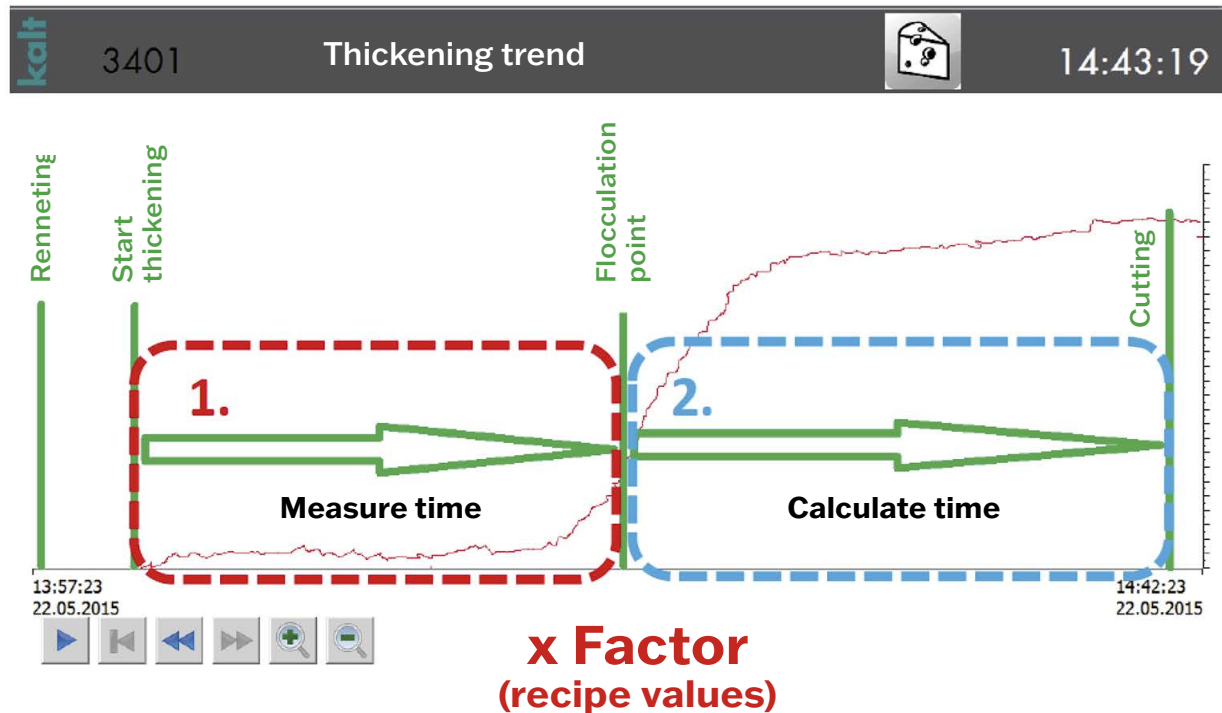
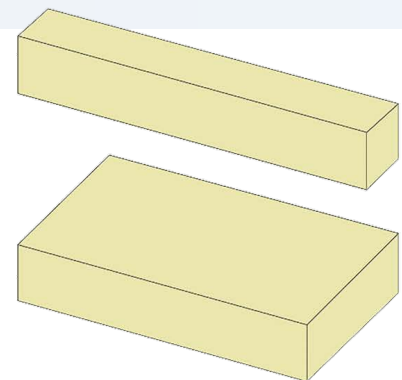
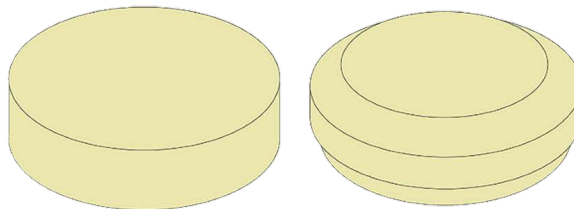


Figure 1: Probe and thickness profile (symbolic image)

*Cheese molds
(round, square, stick)*



Kalt offers companies the opportunity to test the effectiveness of the thickening probe by testing it with mobile kit. This approach allows dairies to experience the benefits of this technology prior to purchase it and to prove its functionality. Kalt's experienced team is available to provide comprehensive information, answer queries and assist with the implementation of this innovative solution.

Overall, Kalt Maschinenbau's thickening probe is a groundbreaking technology that takes cheese production to a higher level. With its precise measurements, employee independence and efficient operating principle, it helps to improve product quality and reduce costs at the same time. Kalt Cheese Technology is focused on supporting companies in the cheese industry and offering them customized solutions to achieve their production goals efficiently.

Cassette press for maximum cheese quality

The cassette press was developed in the 1990s for multi-batch operation in cheese dairies. Today, it is impossible to imagine industrial companies without this system. With direct filling into a wide variety of stainless steel moulds, such as round, square or even bars up to 120 cm long.

The 5-in-1 principle offers the customer the option of scaling, i.e. if higher production is required over time, it is possible to expand by adding several presses. The arrangement of several presses also achieves redundancy in cheese production, allowing cleaning and maintenance to be planned precisely and carried out in stages without bringing cheese production to a complete standstill.



Cassette press

The cassette press can perform all five steps of the cheese pressing process fully automatically: Filling directly into the desired cheese dimension, pressing cheese with recipe-dependent pressing program, acidifying to the required PH value, demoulding cheese from the machine, cleaning using CIP within 100 min. The employee can plan and track all processes via the higher-level control system from Staedler Automation AG (sister company). Manual intervention is no longer necessary. The working environment is also very quiet. Thanks to the simple handling of each machine, loud mechanical noises are a thing of the past.

The batches are treated separately, which means that different types of cheese can be produced throughout the day without mixing and without intermediate cleaning. A batch from the cheese vat is filled in one press. The size is therefore determined by the customer. Batch sizes of up to 35,000 liters are possible. The cheeses are shaken or blown out of the cassettes ready-pressed.

This means that the cheese can be placed directly in the salt bath or automatically placed in secondary moulds for further acidification. Depending on the recipe and processing quantity, the number of presses and vats is adapted to the customer.

With the cassette press, it is possible to produce cheese bars (e.g. 120cm x 10cm x 10cm). This means that the cheese can be processed on the slicer in a more resource-friendly way. For example, such a bar only has two sections, whereas the same quantity of Euroblock's loaves would have eight sections.

Conclusion

Kalt Maschinenbau AG sees it as its task to remedy the emerging shortage of skilled workers and to enable customers to achieve the greatest possible efficiency. The challenges cheese dairies are confronted with are diverse and complex. However, the lack of qualified employees and the need to optimize production processes are two of the most crucial problems today. Kalt has established itself as a reliable partner for cheese dairies by developing innovative solutions such as cheese vats with thickness measuring probes and the fully automatic cassette presses. These technologies help cheese dairies to increase efficiency while reducing labor and conserving resources.

FOOD CHAIN acquired Organic Certifiers

FoodChain ID, a leader in global certification services, has acquired Organic Certifiers, Inc., one of the first certification bodies accredited in the United States for the USDA National Organic Program. With the acquisition of Organic Certifiers, Inc., FoodChain ID and its global entities have collectively enhanced the organization's status as an industry leader and are now a top five certifier for the USDA National Organic Program by total number of operations.

Organic food sales in the United States continue to grow, reaching a record value of nearly \$62 billion in 2022. Key drivers for growth are consumer interest in sustainability and the health halo of organic products, according to the Organic Trade Association. To meet the market demand, food growers and manufacturers require reliable certification experts versed in the details of organic certification.

FoodChain ID's organic certification accredited entities, Bioagricert and Cosmocert, are both pioneers in organic certification. Bioagricert and Cosmocert certify over 23,000 organic farms and producers annually across North America, Europe, Latin America and Southeast Asia. In addition, FoodChain ID's dedicated teams are supporting supply chain.

Participants with the upcoming enforcement deadline for the USDA's Strengthening Organic Enforcement (SOE) Final Rule. Designed in response to increasingly complex food supply chains, distributors and other intermediaries must demonstrate compliance with the new USDA Organic Certification regulations by March 19, 2024.

NEWS

NEWS

Weber Maschinenbau becomes Weber Food Technology

Comprehensive transformation

Food producers worldwide are advancing the automation of their production and strive to source processing and packaging lines from a single provider. Machinery and plant manufacturers in the food industry must adapt accordingly. In response to this trend over recent years, Weber Maschinenbau has undergone a comprehensive transformation from a machinery manufacturer to a solution provider. The company has expanded its international presence and placed the needs of customers at the center of all activities and developments. As the next step in this transformation, the logical consequence is the renaming: Weber Maschinenbau GmbH Breidenbach became Weber Food Technology GmbH with effect from 01.01.2024. This will make the company's identity directly apparent in its name.

The focus of Weber Food Technology is on developing and providing solutions for food processing, specifically for perishable, fresh food.

In the future, the Weber solution portfolio will be even more diversified to serve additional markets. The expansion on a global scale is a central component of Weber Food Technology's strategic orientation. The new name takes this focus and strategy into account. "We are committed to helping customers worldwide achieve their goals and ensure the food supply of the population. Providing solutions for processing and packaging fresh food is our mission, and as a partner to the food industry, it also remains our obligation to the customer and society", emphasizes Tobias Weber, CEO of Weber Food Technology GmbH.



"We are committed to helping customers worldwide achieve their goals and ensure the food supply of the population..." emphasizes Tobias Weber, CEO of Weber Food Technology GmbH.

As part of the renaming, the TEXTOR brand, under which slicers and other line components were previously marketed, will be integrated into Weber.

Advertising



SAN Fresh brings individuality back to the cheese counter!

By using SAN Fresh, the wrapped cheese segments not only retain the look of hand-packed cheese, but also promote awareness of **regional products and sustainability**, as **packaging waste is reduced by up to 60%!**

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More information: www.alpma.com



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Chr. Hansen expands Nienburg site

Broad range of cultures and enzymes

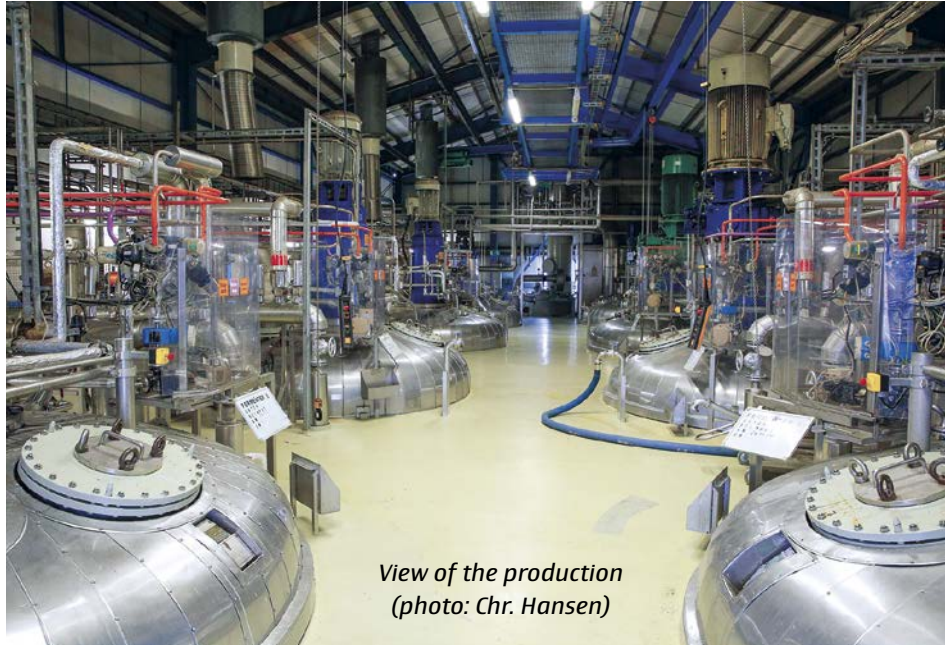
With a culture portfolio of over 50,000 strains, Chr. Hansen offers a comprehensive portfolio of cultures and enzymes for the production of cheese and fermented milk, probiotics, fermented plant alternatives, wine and meat as well as bioprotection. Food Cultures & Enzymes now account for 62 percent of total sales worth €1.3 billion (€828 million). The Danish company is also active in the area of health and nutrition with products for human health, animal health, human milk oligosaccharides and plant health. With its Health & Nutrition division, Chr. Hansen generates sales of € 506 million



*Carsten Rou, Managing Director Hansen GmbH,
Sylvie Stolle, Marketing & Sales Support,
Dr. Claudia Müller, Head of Marketing CE and
Plant Director Andreas Artner (photo: IDM)*



In Germany, Chr. Hansen is represented by three production sites in Nienburg, Pohlheim and Rheinbreitbach. IDM was on site in Nienburg in Lower Saxony, where enzymes have been produced with the help of biotechnology since 1969 and cultures for the three business segments Dairy/Cheese, Animal Health and Plant Protection since 2002. "Nienburg is the centre of Chr. Hansen's enzyme production. We concentrate these as much as possible before they are standardised at our sites in Denmark, the USA and Brazil," says Plant Director Andreas Artner. In addition to production, the central administration and customer service of the German branch and a service centre for the dairy industry are also located here. There are 164 employees in Nienburg and a total of over 400 in Germany.



*View of the production
(photo: Chr. Hansen)*

"Our goal is to use good bacteria to improve food, health and productivity for a sustainable future. 80 percent of Chr. Hansen's turnover contributes to the UN Sustainable Development Goals. We take a holistic view of food. This starts with agriculture, for example, with natural crop protection and improved silage quality, and extends to better food production through higher productivity and improved health through the use of probiotics or the reduction of sugar in dairy products," says Dr. Claudia Müller, Head of Marketing.

Growing demand

Due to the rapidly growing demand for cultures for the plant health sector, the Nienburg site will be further expanded over the next two to three years with an investment of EUR 30-40 million. Production currently takes place in several fermenters with 56 m³-121 m³. A completely new production line for plant protection is to be built as part of the expansion. This will include an automatic press filter and a new silo for raw materials in order to increase automation of the process.

In addition to Thermolase, the enzyme ChyMax for cheese production is also produced in Nienburg for the dairy industry. ChyMax is a pure, fermentatively produced chymosin. The advantage here is a higher yield of up to two percent compared to the use of animal or microbial rennet. The higher specificity also has a positive effect on the taste; there is no bitterness in the cheese. "We work closely with the dairies here," says Managing Director Carsten Rou. Application engineers from Chr. Hansen visit the dairies' production facilities, take measurements and look for the optimum dosage. "We focus on productivity concepts with the aim of generating added value for the dairies," continues Rou. The Nienburg enzymes are used successfully all over the world.

Proposed merger of Chr. Hansen and Novozymes

The proposed merger of the Danish enzyme and culture manufacturers Chr. Hansen and Novozymes creates a leading global partner for biosolutions with a broad technology platform. The name of the future combined company will be 'Novonesis'. Novonesis means 'A new beginning' and derives from the Greek word 'genesis'. The name reflects a new era of biosolutions where innovation in biological sciences and technology will offer solutions to solve some of the biggest challenges facing humanity. Novonesis generates annual sales of around €3.5 billion with approximately 10,000 employees. The sales synergies are estimated at € 200 million. The groups expect cost synergies in the order of €80-90 million to be achieved within three years of the completion of the transaction.

Carsten Rou, Managing Director Chr. Hansen GmbH, said:

"Novozymes and Chr. Hansen are proposing to join forces to create a Danish-based global biosolutions partner based on our strong complementary technology platforms, highly dedicated employees and customer-centric approaches. Building on shared purpose-driven values and cultures, as well as an unquestionable business rationale, the proposed combination of these two iconic Danish companies represents a natural next step towards addressing the needs of to-morrow."

"With this proposed combination, we are jointly creating a leading bio-solutions partner dedicated to securing a healthy planet and a more sustainable future. The combined business offers a great opportunity to pursue attractive synergies by creating new solutions for the benefit of our customers and consumers and will create value for all our shareholders as well as for society."

Anuga FoodTec 2024

„Responsibility“ as the central theme



Visitors to Anuga FoodTec can look forward to comprehensive information about new technologies and concepts along the entire value chain from more than 1,600 exhibitors, with an anticipated foreign share of 60 percent. Anuga FoodTec will again occupy an area of 140,000 square metres.

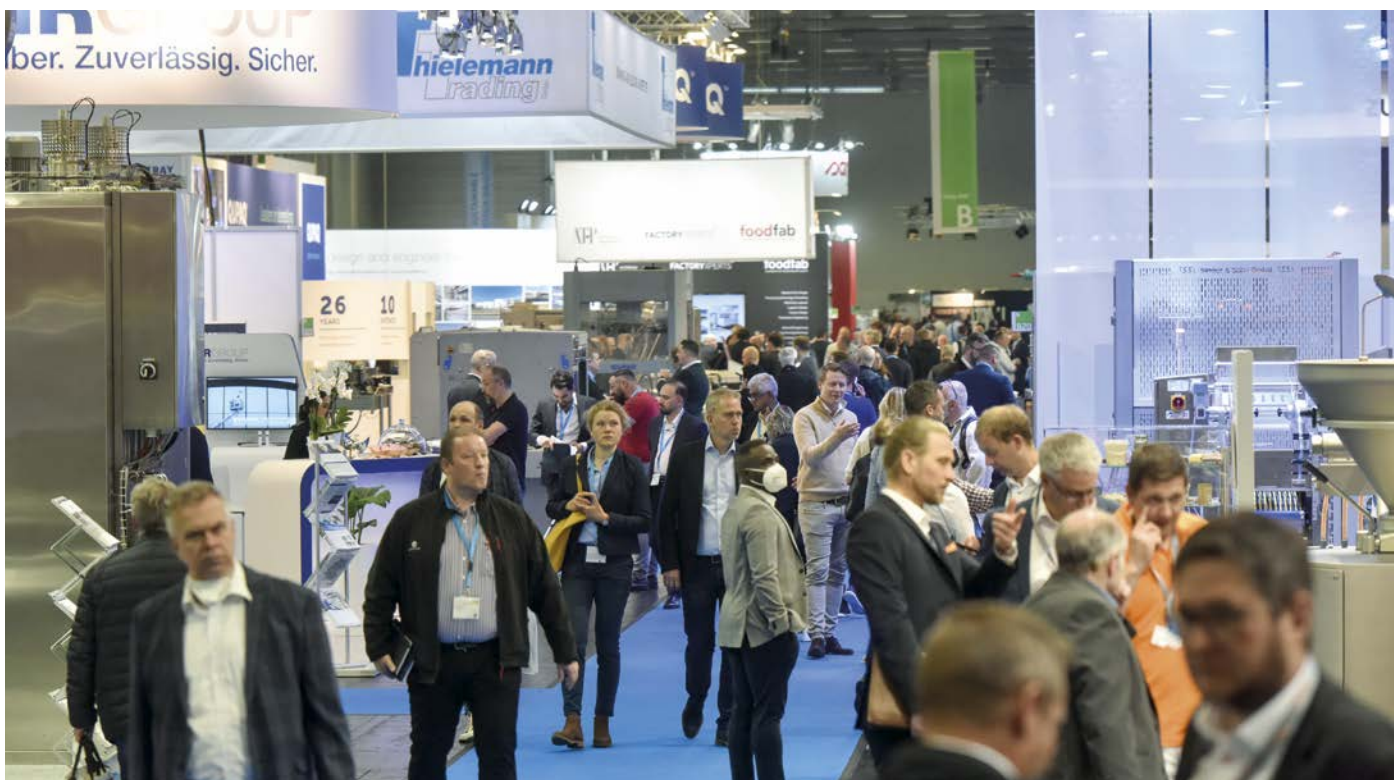
Visitors will find solutions from the areas of Food Processing, Food Packaging, Safety & Analytics, Intralogistics, Environment & Energy and Automation & Digitalisation.

Within the framework of the central theme of “Responsibility”, the industry is facing up to current and future challenges and acknowledging its responsibility. The focus is on the question of

how the industry must orient food production in the future in order to bring about a sustainable change in our food system and to be able to guarantee global supply security. In order to make “responsibility” tangible, accents will be set across the fair, it will be taken up by exhibitors and also reflected in the congress and event programme. In addition to the industry giants, medium-sized companies, specialists and start-ups will also present their innovative concepts.

Further information, exhibitor list and event and congress programme are available at www.anugafoodtec.de.

Below you will find initial information about exhibits at Anuga FoodTec 2024.



Ruland: Reliable production systems

Plant-based and vegan alternatives to dairy products are all in trend. New products made from innovative proteins and raw materials pose technological challenges to the production process. With its many years of expertise in plant engineering, Ruland Engineering & Consulting also designs and builds reliable process plants for new products.

As soon as the product idea is ready for production, Ruland supports the transfer of technologies and parameters from laboratory tests to the industrial manufacturing process. In this engineering phase, the process engineer combines the customer's product expertise with standard requirements for plant construction: reliable engineering with cost and risk assessment, product safety, continuous product quality, compliance with all hygiene standards and legal regulations.

Understanding the entire production process across all stages and selecting the right process technology is crucial for a successful project. In addition to the system design, building conditions, the infrastructure for the media supply and the dimensioning of pipework, media connections and the energy supply are decisive for the layout.

The result is a functioning and profitable process plant for industrial production. In this process Ruland combines the plant manufacturer's product expertise and its cross-industry experience from all liquid product projects. The customer receives a reliable production plant for its innovation with stable product quality and the desired output to successfully place their product on the market.

At Anuga FoodTec, the Ruland experts will be available as contacts for all topics relating to plant engineering and construction for conventional or innovative liquids.



Pilot plants offer a good opportunity to test the production of new products (photo: Ruland)

Advertising

Hazeleger Kaas – Your Partner for Co-Packing



Over 100 years, Hazeleger has developed to become the cheese cutting and packaging specialist.

Every day, national and international cheese producers, brands and small businesses rely on our quality, expertise and our wide range of services.

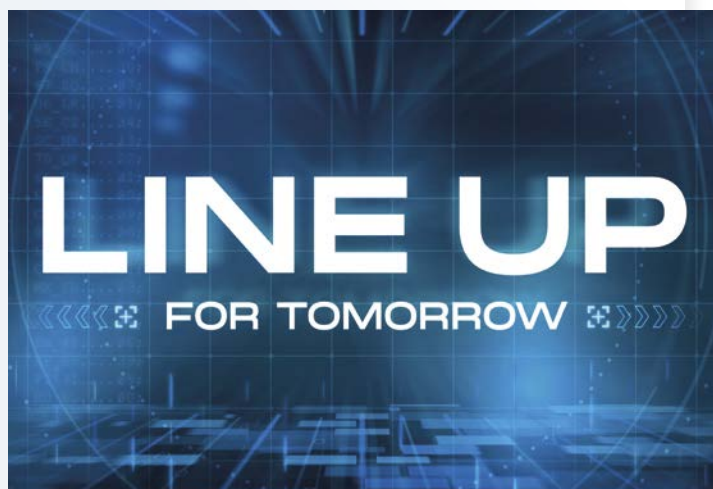
Weber: Automation and processing solutions

In Cologne, Weber Food Technology presents a comprehensive solution portfolio for the automated production of snack and convenience products, as well as a high-performance slicing line for the food service sector. One of the highlights: a line solution for snack packs of products such as cheese cubes and sliced mini salami. The Weber weSHUTTLE shuttle system is the center piece of this processing solution. With maximum flexibility in terms of application variety and set-up configuration, line solutions centered around the weSHUTTLE can be tailored to customer specific recipes. Where other systems have limitations, this automation solution allows producers to implement applications and requirements that could not otherwise be realized.

Visitors can also look forward to two new Weber slicers that will premiere during the Anuga FoodTec. One of the slicers will be part of a food service solution for processing sliced products, in this case bacon. This solution features maximum performance in a compact footprint and can be changed over to other applications in just a few simple steps. In addition to the new slicer, the food service solution features another product innovation: the Weber stacker weSTACK. The weSTACK adds an extra layer of flexibility, as the food producer can decide at any time, based on their needs, whether to use the stacker or not. Visitors can look forward to some highlights in packaging as well, such as the new Weber OxyTech system for measuring residual oxygen levels, the new weLABEL labeling system in both a top and a bottom web version, and three Weber wePACK thermoforming machines for various applications and performance categories.

To fully leverage the potential of this technology, intelligent networking of all line modules and the capture and convergence of all

*Weber presents automation and processing solutions for convenience products, food service and more
(photo: Weber)*



relevant data is essential. Therefore, Weber places a special focus on the digitization of food production. Visitors will find the wide range of digital products and services integrated in all featured solutions, so they can experience first hand how transparency and increased efficiency contributes to greater value in production. A unique feature of the Weber Digital Factory Solutions: Third party components can also be fully integrated, allowing the user a comprehensive overview of all data and information.



Galdi is presenting the RG280 (photo: Galdi)

Galdi: New generation of food filling machines

Galdi is presenting the RG280 in Cologne, a new machine for filling liquid and viscous food products. From the definition of the filling parameters of the DDF dosing system to the application of advanced techniques to control the sloshing behavior during filling and transport of the packages, the RG80 ensures product quality – also from a hygienic point of view - through “reproducible scientific processes” that are the result of years of research and filling tests, according to the manufacturer.

The DDF dispenser, usually available on high capacity fillers, also guarantees considerable waste reduction – both product and carton-wise – every time the machine starts.

As a digital machine from the ground up, the RG80 is equipped with the latest generation of sensors, analysis and monitoring devices (MaSH), which are linked to the digital services implemented by Galdi in order to find causes of faults faster and isolate them more accurately, predict any faults before the operator notices them, provide a precise insight into the “health” of the machine as well as enable timely remote intervention.

The RG280 is designed for medium capacities of up to 3,500 cartons per hour.

MULTIVAC: Sustainable, automated and digital solutions

Exhibiting at Anuga FoodTec 2024 under the motto "Multiply Your Value", the MULTIVAC Group will be presenting its wide range of innovative processing and packaging solutions for the food sector. The focus will be on its comprehensive slicing range and integrated lines, which contribute significantly to making production processes very efficient and resource-saving thanks to their high level of automation and digitalisation.

Wide slicing range for all types of sliced products

Showing a fully automated, high performance line for slicing and packaging sausage and cheese slices, MULTIVAC will be presenting itself as a supplier of complete solutions – from processing through to end-of-line. The MULTIVAC Line Control (MLC) throughout the entire line enables all the process stages to be operated very efficiently from one central point – from slicing through to loading into the thermoforming packaging machine and subsequent converging of the packs, and right up to inspection, labelling and container loading. Recipe changes "on the fly" will be demonstrated at the trade fair, which significantly reduce start-up losses during product changes, and this therefore saves resources and production costs.

When it comes to slicing and packaging small to medium-sized batches, a flow-pack line will be on show at the trade fair, and this consists of a new entry-level slicer and the universal W 510 flowpacker, which is characterised by its ease of operation and cleaning. The line at the trade fair will feature cheese slices being packed.

Another exhibition area in a marquee on the open-air site (in front of Hall 8.1) is dedicated by the MULTIVAC Group to the portioning of fresh meats and the slicing of processed meats and cheese. There machines will be shown in live operation, including various portioning machines of the GMS series, which produce trim-free portioning thanks to their 3D forming, as well as MULTIVAC slicers in different output categories.

MULTIVAC will be presenting itself as a supplier of complete solutions (photo: MULTIVAC)



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Goudsmit: New pipe magnet

Waalre-based Goudsmit Magnetics has developed a new pipe magnet that requires half the installation height of its predecessor and is also twice as strong. Manufactured entirely from stainless steel, the magnetic separator contains a core of neodymium magnets and creates a flux density of 12,000 gauss. The conical-shaped magnet core contains more pole plates, so even 30 µm particles stick to more engagement points. This results in a higher degree of separation and also makes it possible to capture smaller metal particles in addition to coarse ones. Steel particles present in the product flow such as bolts, nuts, washers, screws, small metal balls, broken threads and clips can be effortlessly separated from grains, corn, flour, wheat flour and other incoming goods flows.

The new magnet system is suitable not only for mounting in free-fall pipes, but also for pressure pipes. The stainless steel bullet magnet can be used in food but also other industries.

Low installation height & compact design

The pipe magnet was developed in response to specific market demands. The first requirement was to develop a pipe magnet with

a low installation height that, with a small adjustment in terms of pipe length, can be easily integrated into existing processes. This, together with the high flux density, means that the magnet can already be used at goods intake. An additional advantage is that the pipe magnet captures smaller metal particles in addition to large metal particles, improving product quality. This prevents dust explosions and damage to machinery, resulting in production stoppages. The stainless steel pipe magnet can optionally be fitted with various flanges, such as DIN, Jacob etc. This makes the product widely applicable.

Quick access for easy cleaning

Despite the strong permanent magnetic core, the magnet is easy to clean. Through the door with vertical suspension, inspecting for contamination levels is seconds work. The magnet can be opened and cleaned by hand or a scraper. Smaller metal parts, such as balls or broken threads, can be easily pushed above the tapered top of the magnetic core and then removed. This is an improvement over previously designed versions. To prevent the magnet from being opened during the production process, it is possible to fit the stainless steel pipe magnet with a safety switch.



Logicon offers automatic and flexible palletizers (photo: Logicon)

Logicon: Easy and safe packaging handling

Logicon offers automatic and flexible palletizers that can be customized depending on the type of packaging to handle. Over the years, advances in technology have increased the importance of packaging lines optimizing, in view of process speed and result accuracy. Each palletizer meets the single needs of the customers, the particularities of the carton, the placement on the pallet and the required performances. Every model is manufactured using cutting-edge technologies, which allow the achievement of units characterized by high performance and precision.

The interface software is designed to make the plant use simple and intuitive, without limitations on the control and introduction of new products.

Bardiani: Valves for pigging systems

Liquid product recovery (pigging system) is used after a product transfer to remove or recover residual liquid product remaining in the pipeline of a process system.

It's an effective way to increase product yields, cut waste, speed up changeover times, improve profits and boost environmental sustainability.

Bardiani piggable valves enable the smooth passage of the hygienic plug ('pig') thanks to special design of solid bodies and shutter. The valves have a bore the same as that of the pipe and have no obstructions in closed position, too.

This enables the pig, when propelled through the pipeline to easily fit through the valves.

Goudsmit Magnetics has developed a new pipe magnet (photo: Goudsmit)



Flottweg SE has recruited extra support for its top management:

PEOPLE

Klaus Huber served as the new member to the Board of Management effective December 1, 2023. He succeeds Peter Frankfurter, who left the Board of Management in October at his own request and by mutual agreement with the Supervisory Board.

Huber joined Flottweg in 2000. Born in Landshut, Germany, he initially started his career as an employee in the Controlling department, where he later managed a small team in the area of cost accounting and costing. In 2009, Huber was then promoted to Head of Accounting and Controlling, which he successfully led until his appointment to the Board of Management. In his new role, Huber will assume responsibility for the Finance and Accounting, IT, and Business Process Management departments. Chairman of the Board of Management, Dr. Kersten Christoph Link, has temporarily supervised these departments on an interim basis.



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The compact HEUFT eXaminer II XS opens up new perspectives (photo: HEUFT)

HEUFT:
Further developed lateral inspection

The compact HEUFT eXaminer II XS opens up new perspectives for the gentle and precise detection of foreign objects at the end of the line with more flexibility in the combination, arrangement and alignment of performance and lifetime optimized X-ray technology.

The slim turnkey solution for the pulsed sideways X-ray inspection of cans, Doypacks, squeeze bottles or carton packages achieves full detection reliability in the smallest of spaces: dangerous foreign objects with a high density in the product are identified gently and precisely. Modularly expandable, the compact system of the new generation can be equipped with one or two X-ray flashers – depending on the height of the full packaging to be inspected – to ensure that the inspection always covers the entire filling volume.

With two X-ray modules, precision is increased in the detection of high-density objects such as metal particles or hard plastic fragments. In addition, this enables a complete inspection of particularly large-format containers with a straight view of the sensitive fill line area. If only a base inspection is required, as is the case with liquid products in cardboard packaging, this packaging area alone can now also be specifically inspected with only one further developed sideways X-ray flasher – thanks to an “unfolded” base view implemented by the intelligent HEUFT reflexx A.I. image processing. Small foreign objects lying flat at the bottom of the packaging can be detected even more clearly this way.

A new option for particularly high full packages whose complete volume has to be examined is a special oblique alignment during the X-ray with only one detection unit. This makes it possible to identify foreign objects not only at the bottom, but also everywhere else in the packaging. A new type of full-surface image converter provides increased sensitivity and ensures that each individual X-ray pulse covers a significantly larger container area than before.

Flottweg will be presenting the AC series at the Anuga trade fair stand (photo: Flottweg)



Flottweg:
Clarification and separation

Flottweg will be showcasing its effective separation technology for the food and beverage industry with the AC series in Cologne.

From juice production to beer clarification and protein extraction: Highly efficient separators are required to separate liquids or clarify ultrafine particles. With their enormous centrifugal acceleration of up to over 12,000g, Flottweg separators are real purification and clarification all-rounders. Clarifiers (2-phase separation), separate the finest solid particles from a liquid. As purifiers (3-phase separators), they can separate liquid phases of different densities and simultaneously precipitate suspended solids. Their compact, robust design ensures smooth running and simplifies maintenance. The disk pack and the distributor ensure optimum flow behavior in the bowl. They thus enable highly efficient solids separation and maximum separation efficiency in the separation of liquid phases. Flottweg AC separators meet the high hygienic standards in the food and beverage industry and can easily be incorporated into existing cleaning-in-place processes.

Modular, easy to maintain and powerful – equipped with these properties, the Z-series decanter centrifuges perform key functions in separation and dewatering tasks in various areas of the food and beverage industry. Thanks to their modular design, the high-performance decanters of the Z series can be optimally adapted to customer specifications and application requirements. The hygienic design with easy-to-clean surfaces in contact with the product makes the Z series ideal for use in the food industry.

Handtmann will show a complete solution that covers all process steps from filling and portioning to insertion into packaging from a single source (photo: Handtmann)



Handtmann: Numerous innovations

Handtmann will be presenting numerous innovations for the production of a diversified range of food products and pet food to the international visitors at the Anuga FoodTec on an area of around 1,500 square metres. In terms of output, the modular process solutions from product preparation all the way through to transfer to the packaging solution are designed for all operation sizes from start-up to fully automatic, highly industrial and high-performing production.

To interested prospects with a focus on the enduring trends of snacking and convenience, the Biberach-based company will present a host of solutions for formed products at its trade fair stand. The FS 525 forming and cutting system combines two different forming principles for maximum flexibility in industrial applications (hole plate forming technology for free-formed 3D products and rotary cutter for different cross-sections with a straight cut) and now also offers the option of co-extrusion. This option further extends the range of applications for the production of filled formed products with closed or open ends of calibres 20 to 50 mm. Thanks to servo technology, the positioning of the filling, be it pasty, chunky or soft, is always accurate and precise in terms of weight. Simple operation, fast set-up, assembly and disassembly allow a wide variety of products with fast product changes. A production output of up to 150 portions per minute is thus possible in a single lane. The FS 525 forming and cutting system can be perfectly incorporated into integrated processes, such as the Handtmann transfer system, or be synchronised with automation options such as a weighing system, tray feeding or depositing into thermo-forming machines.

The Handtmann ConProSachet system is THE highlight at the trade fair. It offers start-ups as well as medium-scale and industrial producers a packing process for fluid or pasty food products and food supplements into sachets, pods and pockets made from seaweed-based material. Gastronomy and food service with take-away, snacking as well as convenience and ready meals providers benefit from new methods for sauces, dips, dressings, jams and other filled products. The ConProSachet system, co-developed with Notpla, a UK-based material innovation company, was honoured with the International FoodTec Award 2024 (IFTA) gold medal as a pioneering method for reducing plastic packaging waste.

In addition to numerous Industry 4.0 solutions in support of the process, the filling and portioning specialist from Biberach will also be presenting its Handtmann Customized Solutions, offering customised solutions tailored to individual customer requirements. Visitors to the trade fair can look forward to exciting new Handtmann FOOD INNOVATIONS. The range of products prepared for tasting will include numerous new concept products and product ideas.

Advertising

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Gernep: New generation of labelling machines

Gernep's new generation of labellers is designed for maximum flexibility - thanks to the pre-modular machine concept. Flexible fixtures around the labelling machine allow the labelling stations to be fitted to the customer's individual requirements for precise labelling and integration into the existing production line. The streamline machine design is also characterised by excellent accessibility, so that maintenance and cleaning work can be carried out easily. Visitors to Anuga FoodTec can marvel at a modern self-adhesive labelling machine. Self-adhesive labelling offers customers maximum flexibility in terms of equipment, as it is particularly flexible in the use of label materials and shapes. With the option of integrating special additional equipment such as seal labelling, inspection technology and optical or mechanical alignment, Gernep can respond to customer requirements in the best possible way.



Gernep's new generation of labellers is designed for maximum flexibility (photo: Gernep)

Decarbonizing dairy processing GEA helps Nestlé cut steam consumption by 75%

At Nestlé's plant in Nunspeet, the Netherlands, GEA is to equip a milk powder line for hypoallergenic infant formula with the latest process and heat pump technology. Using an innovative heat recovery from the spray dryer and further processes, the plant will use 75 percent less energy for steam and massively reduce carbon emissions. In this way, GEA is supporting Nestlé on its path to net zero by making the energy supply to Nestlé production facilities emission-free by 2050.

In response to increased demand for its Althera and Alfare infant formula brands, Nestlé is currently doubling production capacity at the Nunspeet plant with an additional processing line. For the first time, Nestlé will be using a GEA heat recovery system that is fed by exhaust air from the spray drying plant and, in turn, provides 80°C hot water for its operation. As part of the project, GEA will also equip the complete wet processing technology, which supplies the Nestlé spray drying line with the prepared milk. Installation of the process technology and heat supply system is planned for next year. The plant will go into operation in 2025.

"The new plant in Nunspeet will also serve as a Group-wide demonstrator for future-oriented solutions to minimize energy consumption and greenhouse gas emissions in milk powder production. We are already familiar with heat pumps in various production processes. But using them with spray dryers, the most energy-intensive part of the process, is something new for us. The GEA system enables us to reduce the plant's steam consumption by 75%," explains Gerben Koopmans, Engineering Manager at Nestlé. For these reasons, the project is executed with subsidy of the Ministry of Economic Affairs and Climate.



At Nestlé's plant in Nunspeet, the Netherlands, GEA is to equip a milk powder line for hypoallergenic infant formula with the latest process and heat pump technology (photo: Nestlé)

Integrating process and heating/cooling technology

"Our integrated solutions combining process technology with heating and cooling technology set a new benchmark in milk powder production, because fusing the two disciplines in production planning and design implementation significantly reduces the plant's energy consumption and carbon footprint," says Ronald Hofland, GEA Sales Manager.

In addition to the ammonia heat pump for the spray dryer, GEA is providing a second heat pump that supplies hot water at 85°C to heat the entire production line and run the various dehydration processes, as well as cold water at 1.5°C to air-condition the factory. GEA's process technology for the wet line includes state-of-the-art evaporators, inline formula mixers, a homogenizer, high-pressure and high-shear pumps, heat exchangers, valves, as well as all other connecting components and pipework. The heat pump system will provide this process technology with hot and cold water for maximum energy efficiency in operation.

Specialist program Anuga FoodTec 2024

With its numerous event formats, the extensive event program of Anuga FoodTec 2024 aims to provide important impetus for cross-industry dialogue. In particular, the focus will be on the key theme of "Responsibility". The specialist programme organized by the DLG (German Agricultural Society) also addresses this overarching theme: With creative, modern event formats such as "Science Slam", "Open Expert Stage", "Deep Dive" or "Content Pro Contra", it offers a wide range of opportunities to get actively involved and benefit from extensive expert knowledge - interaction and international networking are the focus here.

Main Stage Responsibility

The Main Stage (Hall 9, B080/C081) will focus on the central theme of "Responsibility" in the food supply chain over the four days of the trade fair. The concept of sustainability meets the responsibility to drive innovation and operate responsibly in all processes of the value chain. Only holistic approaches promise long-term success: from the supply industry to global raw material procurement, production, packaging and logistics through to energy and water management. Experts from the food supply chain will present and discuss innovative technologies, ecological

approaches and socially responsible procedures for the future of food production. The spectrum of topics ranges from sustainable packaging, transparent and socially responsible supply chains, alternative proteins, food security, food safety and climate change, reduction of food losses, fresh produce and intralogistics to optimal energy and water management, automation, robotics, digitalization and artificial intelligence.

Innovation Stage

Which technologies and approaches will be used to produce which foods in the future? The Innovation Stage (Hall 5.2, C100/D119) sees itself as a think tank for the economy of tomorrow. Together with cooperation partners from science, business and the start-up scene, the future will be rethought here together with interested trade visitors. Topics include the latest developments in the field of extrusion technology, sustainability approaches along the food value chain, growth markets, meat alternatives and plant-based drinks, big data, cyber security, predictive maintenance and open innovation approaches: How can innovations be created?

Advertising



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Comparison of current BAPC methods in use:

IDF Factsheet 22/ 2022: Enumeration of butyric acid forming (cheese spoiling) clostridia – methodical considerations



Undercover in the refrigerated section – now and in the future

Latest project of Gropper and Syntegon

The Gropper company name rarely appears on product labels. However, the retail brand specialist is certainly present: its dairy products, juices, smoothies, and water can be found in supermarkets all over Europe. In order to stand up to the high production pressure in the industry, manufacturers require efficient systems that maintain their performance over decades – and remain technically up to date. Predictive obsolescence management plays an essential role in this, as the latest project of Gropper and Syntegon shows. In this interview, Claus Mayr, Deputy Department Manager Project Planning Filling and Packaging Technology at Gropper, and Helmut Weissenbach, Project Manager at Syntegon, share how they carried out line modernizations in a time- and cost-saving manner.

IDM: Technology suppliers sometimes remove system components from their portfolio. Manufacturers like Gropper then need to modernize their equipment to ensure that production does not come to a standstill. How did Gropper and Syntegon meet this challenge?

Weissenbach: Modernizations are an integral part of our customers' daily production operations. This was also the case at Gropper: Through Schneider Electric (SE), the manufacturer of our filling machines' control technology, we learned that certain components of control electronics of Syntegon filling machines will no longer be available as of 2024. Instead of bidding our time, we immediately set out to find a modernization solution that would require as little time and material as possible – and thus ensure our customers would be reliably supplied with the relevant control components in the future. We knew that one line operated by Gropper would also be affected. As we had successfully modernized just such a line for a competitor shortly before, we were able to leverage our experience from this pilot project to implement the modernization at Gropper even more efficiently.

Mayr: This proactive approach suited us perfectly. We have been working with Syntegon for many years. The company knows our machines and requirements very well. So, it was a given for us that Syntegon



At its main site in Bissingen in northern Swabia (pictured here), Gropper produces on seven cup lines, five bottle lines and one gable carton line.

would also take on the modernization of the ultra-clean eight-lane cup filling line in question.

IDM: Mr. Mayr, Gropper sells its products primarily in German discounters – an industry with high productivity pressure. What challenges do such modernization projects present you with?

Mayr: We produce in large quantities – each year, for example, we process almost 270 million liters of conventional milk and 81 million liters of organic milk. At our headquarters in Bissingen in northern Swabia, we operate seven cup lines, five



*Two experts in obsolescence management:
Claus Mayr from Gropper (left)
and Helmut Weissenbach from
Syntegon.*



bottle lines, and one gable top carton line. With the volumes required, we cannot afford long downtimes. In addition, we only have short time windows in the spring or fall to modernize our lines. We depend on efficient execution to get back into production as quickly as possible. Syntegon fully met our requirements: we not only completed the modernization of the first cup filling machine faster than planned. Along with the control technology, we were also able to overhaul the machine's filler within the same time frame. In other words, time and financial savings went hand in hand.

IDM: Mr. Weissenbach, what exactly made the project so efficient?

Weissenbach: Thanks to our pilot project in the dairy processing industry, we were able to draw on a wealth of experience to optimize the processes. The replacement of the control electronics and the overhaul of the dosing unit were carried out by skilled Syntegon experts. In just seven days, we had installed the new control system – and needed less time than initially planned. In fact, the modernization went so smoothly that Gropper did not need any additional production support from a programmer on the last day of the project.

After commissioning, the cup filling line immediately achieved its usual output rate, so we were able to save ourselves an extra efficiency run. The subsequent count reduction test for germ determination in our test laboratories also proved that the germ reduction worked perfectly and in accordance with the ultra-clean filling requirements.

Mayr: With this project, we have set ourselves up for success in the future – in more ways than one: We have stocked up on control technology so that we can replace components quickly if necessary and keep production downtimes to a minimum. Our team was able to pick up a few tips and tricks in the course of the modernization. Moreover, our employees completed a one-day training following the modernization. In the future, we will be able to replace motors or controllers and carry out motor referencing ourselves.

IDM: These results are something to be proud of. Where do we go from here?

Mayr: The next step is the modernization of another filling line in Bissingen; by 2026, we intend to have converted all our machines to the new control technology with the active support of Syntegon. This will give us planning and production security for the years ahead. We will be able to meet the high production volumes needed from us in the future – so that Gropper products remain an integral part of discounters' selections.

Specialist for cheese packaging

Hazeleger Kaas focuses on flexibility



photo: Hazeleger Kaas

Hazeleger Kaas, a family business based in Barneveld, the Netherlands, specialises in slicing and packaging cheese for third parties. The company takes care of the entire process, from slicing and packaging to distribution. Hazeleger Kaas also buys cheese itself, packs it and sells it under its own name to wholesalers and the industry.

“Our main area is the packaging of cheese for third parties. Here we work together with almost all Dutch cheese producers. FrieslandCampina and A-Ware, for example, also pack their own cheese, but there are also products that these

companies cannot and do not want to pack themselves. This often happens with smaller quantities and special products, which is exactly where our expertise becomes valuable. We distinguish ourselves by being able to package from an order size as small as 150 kg, making us an appealing partner for customers with special products or smaller orders. Despite our specialized skills in dealing with many order changes, clients also engage us for their larger volumes,” says Harm Versluijs, Sales at Hazeleger Kaas.

Depending on the customer’s requirements, the cheese is cut into wedges,

slices, cake pieces, cheese blocks for the industry, half loaves or rectangular pieces. Customised solutions are also possible.

Packaging variants and trends

Customers who want to have products packaged can choose between different packaging variants, from trays to thermoformed packaging with or without vacuum, vacuum shrink packaging and resealable packaging.

The company mainly packs hard and semi-hard cheeses. “We concentrate on Dutch varieties and a few foreign ones

Over the last ten years, Hazeleger Kaas has grown strongly with its cheese packaging and slicing activities (photo: Hazeleger Kaas)

such as cheddar or mozzarella,” says Versluijs. After packaging, the cheeses are packed in outer packaging adapted to the transport conditions.

The trend in packaging is certainly that it should be as environmentally conscious as possible. “Mono-packaging and the reduction of film are certainly an issue here. There have also been various attempts to develop degradable film, but this has not yet been successful. Environmental awareness is the trend, but it’s not so easy to fulfil when it comes to packaging, as the product has to be adequately protected. But there are promising developments on the market; things are moving forward,” says Versluijs.



No growth at any price

Over the last ten years, the company has grown strongly with its cheese packaging and slicing activities and now employs more than 300 people. Are there plans for

further growth? Versluijs: “We are a flexible, independent family business that is not in competition with its customers, as we are not represented in the food trade. Growth is always good, but not at any price.”

EMMI ROTH New cheese plant in the US

Emmi Roth, a US subsidiary, recently opened a state-of-the-art facility in Stoughton, Wisconsin inaugurated a state-of-the-art facility in Stoughton, Wisconsin, covering an area of over 14,600 square meters, where cheese is processed and packaged in a resource-saving manner. Emmi is thus systematically expanding its position in the US cheese specialty market and also creating additional sales opportunities for imported Swiss cheese.

Emmi Roth operates three production facilities in the state of Wisconsin and serves customers from the trade and food service nationwide with high-quality, locally produced and from Switzerland imported specialty cheeses. Since the acquisition of Athenos, the number 1 in the US feta market, in 2021, Emmi Roth has successfully

exploited synergies in market development and distribution. This increased the need to expand processing and sales capacities. The new location increases internal value creation, which in turn strengthens Emmi Roth’s innovative strength and agility in the market.

The internal processing and packaging of cheese also increases efficiency and simplifies the processing and logistics process. As a result, the transport routes can be reduced by half and the internal greenhouse gas emissions can be reduced accordingly. Emmi is thus supporting the plant, which is powered by electrical energy, on its reduction path for netZERO 2050. In addition, around 125 new jobs will be created at the site.



NEWS

Proteins, prebiotics and plant-based

Food ingredients Europe highlights from FrieslandCampina Ingredients



Author: Vicky Davies, Global Marketing Director for Performance, Active & Medical Nutrition at FrieslandCampina Ingredients

Food ingredients Europe (Fi Europe) is always a big moment in the food and beverage calendar, and this year was no exception. The 2023 exhibition was the busiest yet, with over 25,000 visitors walking the halls to seek out the latest ingredient innovations and consumer trends.

The FrieslandCampina Ingredients team was excited to exhibit again this year to showcase the new innovations we've launched this year that address consumer demand for more specific solutions to help them meet their own personal health goals. Read on to discover a new protein and gut health ingredient for athletes and active consumers, a heat-stable whey protein for the medical nutrition market and our latest concepts formulated with our plant-protein range to help flexitarians meet their nutritional goals without sacrificing taste or texture.

Activating the gut-muscle axis

There is an expanding body of scientific research that is uncovering the link between the gut and muscles, leading to an increased interest in 'protein plus' applications with added health benefits. Visitors to FrieslandCampina Ingredients stand at Fi Europe explored how Biotis® Fermentis is poised to tap into this fast-growing trend, by modulating the gut microbiota composition, helping to ease digestive discomfort and providing muscle support to athletes and active consumers.

Combining the benefits of whey protein, prebiotic galacto-oligosaccharides and probiotic cultures by fermenting them together, Biotis Fermentis represents a game-changing innovation to support athletes and active consumers with protein supplementation

photo: FrieslandCampina Ingredients

alongside gut-health support. In one study where active consumers used Biotis Fermentis daily for three weeks, 80% of participants self-reported improved satisfaction with their physical well-being. This ingredient opens up new possibilities for brands to design holistic sports nutrition solutions that maximise athletic performance from the inside out.

Pushing the boundaries in medical nutrition

Maintaining muscle mass is crucial for patient recovery, but with 1 in 4 people admitted to hospital suffering from disease related malnutrition, this can present a challenge for healthcare providers. Medical nutrition has an important role to play in helping these patients recover. However, patients often struggle to consume the amount of protein and energy they need.

Drinkability is a key factor in patient adherence to oral liquid supplements. In fact, over half of patients in the US and Europe cite the thickness of a beverage as the reason for not finishing it. NutriWhey™ ProHeat is our answer to the challenges faced by the

medical nutrition market. A microparticulated heat-stable whey protein, NutriWhey ProHeat enables the development of superior oral nutritional supplements to help improve patient outcomes by bringing the nutritional value of whey protein to patients in an appealing sensory format. Whey protein is historically unable to withstand the high-heat treatments needed for medical nutrition formulations but this new ingredient, launched at Fi Europe, enables formulations with up to 15% protein from whey and casein protein in a 2 kcal/ml solution with superior drinkability, low viscosity, neutral pH and a clean taste.

Overcoming challenges in plant-based nutrition

The plant-based trend continued to dominate at Fi Europe 2023. Figures show that 48% of global consumers now follow a diet around the avoidance or moderation of animal-based products. Plant-based products therefore need to compete with their dairy or meat counterparts in taste and nutritional value to ensure consumers make repeat purchases. However, alternative proteins, such as pea, can often leave beany or earthy off-notes in final products.





The Plantaris range can help manufacturers overcome common formulation challenges with plant proteins (photo: FrieslandCampina Ingredients)

Biotis Fermentis represents a game-changing innovation to support athletes and active consumers (photo: FrieslandCampina Ingredients)



FrieslandCampina Ingredients highlighted how its plant-based Plantaris™ range can help manufacturers overcome common formulation challenges with plant proteins. The ingredients have a neutral taste and smooth, rich mouthfeel, designed to appeal to the most discerning consumers. They also offer superior processability, dispersibility and flowability benefits, to create a high volume of high-quality protein. Visitors to FrieslandCampina Ingredients' stand could taste the ingredients in action with the latest delicious plant protein bar applications – providing a protein content of over 15g per serving.

What's next?

Fi Europe 2023 was a great platform to showcase FrieslandCampina Ingredients' latest innovations in adult nutrition, with plenty of visitors eager to hear about how they can elevate their product offerings to tap into evolving consumer trends. After lots of conversations – and samples eaten and drank – it is time to reflect on all the ideas from the show, and how they can help us reach our Vision 2030 of reaching new heights in nutritional science. Watch this space!

SIG

New Packaging Development Center Europe

SIG was celebrating the official opening of its €10 million Packaging Development Center Europe, located at the site of the company's packaging plants in Linnich, Germany. The center will accelerate new and most sustainable packaging developments and offer SIG customers added value.

The new center features state-of-the-art extrusion and finishing technology, coupled with advanced quality measurement systems and testing equipment. It will significantly increase packaging processability in serial production, system validation and capacity for future digital technologies.

As demand for more sustainable packaging options increases, the new Packaging Development Center Europe will speed up the development of innovative packaging



The new center will speed up new packaging and product developments (photo: SIG)

formats and materials to further expand SIG's leading position in sustainable packaging solutions. It is built according to the latest and most effective energy standards.

Eurilait upgrades packaging capacities

Upgrade for cheese ripening

The stainless steel FM305C was developed for fresh food (photo: ULMA)



Eurilait, the UK subsidiary of French dairy cooperatives Laita and Eurial, has upgraded its packaging capacity for cheese ripening. The supplier was ULMA Packaging UK, which has already installed several packaging lines at Eurilait. The FM305C replaces the ULMA NEVADA, which was purchased in 2006.

“Our previous machine served us well for nearly two decades, but natural wear and tear began to impact its performance, prompting us to upgrade,” explained Damian Wills, engineering manager at Eurilait. “We have a longstanding relationship with the ULMA team, having purchased multiple machines in the past. So, I simply contacted our dedicated contact and shared our specific criteria.”

Designed for fresh food products, the stainless-steel FM305C offers remarkable flexibility, thanks to its box motion sealing head powered by two independent motors. While accommodating different product shapes and sizes, the FM305C ensures high-quality hermetic seals, thereby preserving the freshness of Eurilait’s cheeses.

Nick Ghent, sales manager at ULMA Packaging, said: “Given that many fresh food businesses offer multiple products, having a packaging line that can adapt accordingly is essential. When Damian explained Eurilait’s needs, it became clear that the FM305C was the perfect fit.”

After determining that the FM305C fully met Eurilait’s requirements, the team promptly placed the order. Subsequently, several of Eurilait’s key team members visited ULMA’s headquarters in Spain for a pre-delivery inspection of the packaging solution.

This crucial step in the ULMA process allowed Eurilait to assess the machine and identify any necessary customisations. This proactive approach facilitated a seamless transition and installation at Eurilait’s Somerset facility.

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Also complete dairy factories

Fonterra: New wood biomass boiler swings into action

NEWS



Fonterra has invested around \$90million in this new boiler

Investment of more than \$90million

Waitoa is the third Fonterra manufacturing site to reduce coal use in 2023, as part of the Co-op's plan to reduce its Scope 1&2 emissions by 50% by 2030 (from a 2018 baseline).

The new wood biomass boiler will reduce the site's annual emissions by at least 48,000 tonnes of CO_{2e}, the equivalent of taking 20,000 cars off New Zealand's roads and is another significant step in the Co-op's transition to a low carbon future.

Fonterra Chief Operating Officer (Acting) Anna Palairt says Fonterra is committed to moving to more sustainable fuel options as part of its ambition to be net zero by 2050.

"Fonterra has invested around \$90million in this new boiler, which will make a 3% reduction in our emissions. It is just one of the many decarbonisation projects underway across the Co-op.

The installation of the new boiler at Waitoa will also give a boost to the local wood biomass industry, with Wood Energy NZ supplying wood chip to power the biomass boiler.

Waitoa is also the home to the Co-op's first electric milk tanker, Milk-E, which to date has collected over 5.5 million litres of milk and completed 1004 farm collections. Fonterra is trialling the electric milk tanker as part of its plan to reduce transport emissions.

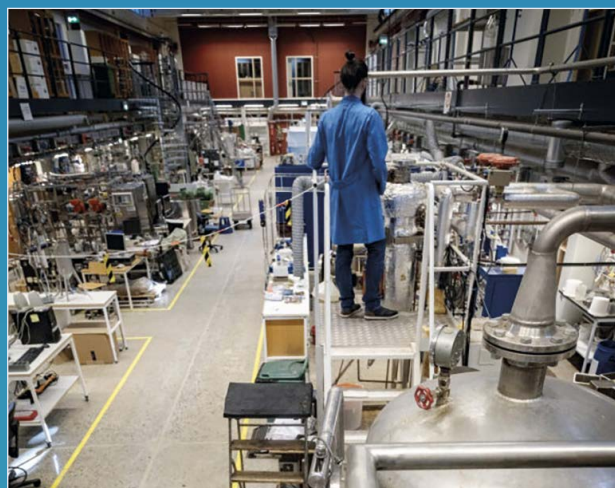
TETRA PAK and LUND UNIVERSITY Research hub to develop future food and material innovations

NEWS

Tetra Pak and Lund University have announced the launch of Biotech Heights, a new research hub that will explore food and materials production using bio-processing to create useful products from living cells or cell components.

Biotech Heights will establish an open innovation environment, in which all participating organisations will have access to world leading laboratories and equipment for both commercial and academic purposes. In addition, participants will have the opportunity to work alongside several faculties at the University to address both the technical and non-technical challenges facing producers, brands, and manufacturers operating in this space. This, combined with Tetra Pak's experience supporting food and beverage brands with product development, will make Biotech Heights a space to nurture and test ideas, and collaborate to share knowledge on best practices and consumer trends.

Currently, more than one-third of global greenhouse gas emissions can be attributed to the way we produce, process and package food. With a rapidly growing global population relying on finite arable farmland, innovation in new food sources offers one route to feeding the planet without increasing the pressure on agriculture. Scaling these new food solutions to meet the needs of future generations is far from simple, with many technological hurdles to overcome. The hub is a collaborative space, aiming to bring together unconventional players to build new knowledge and generate scalable solutions.



Tetra Pak and Lund University have launched the research hub Biotech Heights (photo: Tetra Pak)

Amcor and Fromagerie Milleret

New recycle-ready paper packaging



“Fromagerie Milleret has been producing soft cheese products for over a century. Since our foundation, we have worked to ensure sustainability in our products. Our long-standing partnership with Amcor to produce more sustainable soft cheese packaging reinforces our shared commitment to achieving full recyclability for all our dairy products.”

Chloé Petit, Export Manager at Fromagerie Milleret

Amcor has collaborated with the French family-owned cheese producer, Fromagerie Milleret, to launch a new recycle-ready paper packaging for the company's Le Baron Brie and l'Ortolan Bio premium cheeses.

The two companies have worked together for over 30 years, leveraging their in-depth knowledge of soft cheese products to develop more sustainable packaging. Utilising Amcor's AmFiber Matrix recycle-ready breathable wrap, Fromagerie Milleret's new paper packaging solution is recyclable in existing paper streams, without compromising the quality or integrity of the product itself.

“We know that 84% of European consumers actively seek recycling instructions on packaged products, while 60% say that recyclability instructions and sustainability logos positively influence their purchase decision¹,” said Laura Delapeyronnie, Marketing Manager Dairy at Amcor.

Amcor's AmFiber Matrix packaging allows soft cheese producers to control the level of moisture within the product and the ripening process. This is important, as packaging with too little air exchange can trap excess moisture, leading to a soggy or undesirable texture. While overly porous packaging can cause the cheese to dry out. Amcor's solution is designed specifically to support cheese ripening, allowing Fromagerie Milleret to maintain the desired texture and flavour of their cheese.

Delapeyronnie added: “The solution is breathable in a way that protects product quality in shops and at home, addressing consumer concerns about the shelf-life of dairy products and food waste. And the packaging can be fashioned into a variety of shapes, colours, and sizes.”

For a company that promises a locally crafted product – Fromagerie Milleret collects all of its milk within 30 km on average from its cheese factory – the new packaging meets consumers' preferences for natural, authentic dairy products presented in paper packaging.

Make every drop of milk count

Automated process analysis



Author: Michael Sivers, Global KAM & IBM Process Dairy, Mail: msi@foss.de

In recent years, the dairy industry has seen dramatic increases in raw material prices and energy costs. In parallel, many highly-trained professionals have taken their hair nets off for the last time to head off on well-earned retirements. Despite the best efforts of HR departments, the industry is struggling to recruit young talent to fill their place, leaving significant gaps in expertise on the production floor.

In response, it only makes perfect sense to strive for the lights-out dairy approach by making the most of the latest advances in automated process control, not least, by exploiting the rapidly developing field of process analysis.

As incoming milk accounts for around 50% of production costs, this aspect of production is the obvious target for the use of process analysis in improving the outcome of the dairy process. Empowered by a constant flow of control data from the process, dairies can effectively get more from their investment in control systems by improving the use of key milk components in their products. At the same time, the dependency on manual labour and expertise on the production floor is reduced and the idea of 'lights-out' production takes a step closer to reality.

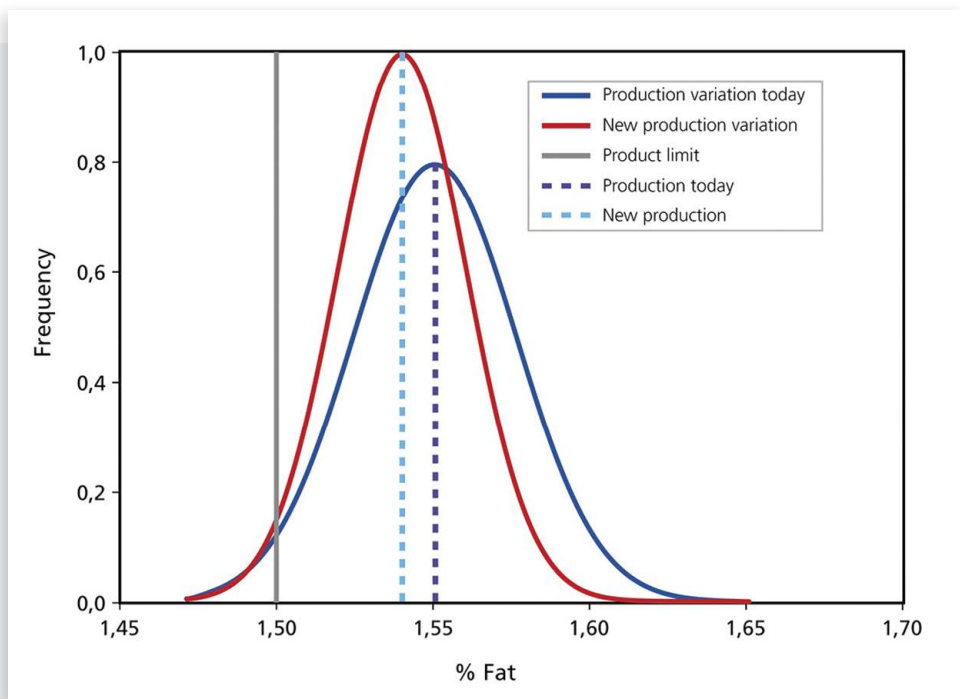


Figure 1: Visualisation of process control in relation to the content of fat in milk as it flows into the dairy. The blue curve shows the original range of variation in fat. The red curve shows the reduced variation achieved with process control. This allows the production target (blue dotted line) for fat to be moved closer to the industry specification of 1.5%. Significant gains in output can be made with no impact on quality and with no risk of overstepping the 1.5% threshold.



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Up and running in a few days

While the concept of continuous process analysis is simple to buy into, implementing still demands a practical solution that is accessible for busy dairy producers. Naturally, most production managers would love to just pop in a sensor at the appropriate spot and let the automation go to work. In practice though, achieving the level of precision indicated in figure 1, requires a more sophisticated instrument to feed the system with a consistent level of highly accurate data. Process analysis therefore requires more than just a sensor. That said, advances in analytical technology now make high-accuracy, low maintenance process analysis a reality with installation often taking just a few days to implement.

The technology behind this revolution is a form of infrared analysis commonly called fourier transform infrared (FTIR). FTIR technology has been used for the analysis of milk since the 1990's and today has become the gold standard for highly precise and repeatable measurements that enable producers to push ever-closer to targets for profit and quality.

Infrared reveals profit opportunity

First used in the well-known FOSS MilkoScan solution which is operated by hand in a control room or laboratory environment, FTIR analysis was a great step forward. It was also clear that much more could be achieved by getting automatic measurements directly in production.

In 1999, a solution called ProceScan was developed by FOSS. To meet the demands of the process environment the instrumentation was enclosed in a robust cabinet making it insensitive to vibration, heat and humidity. Samples of milk were then presented to the unit every few seconds via a sample interface connected to the flow of milk. It was a huge success, but like all great innovations, there is often room to improve on the first version.

Advances in analytical technology now make high-accuracy, low maintenance process analysis a reality with installation often taking just a few days to implement

The recently launched ProceScan 2 does just that. It still might not be the plug-in sensor that production controllers might want, but a raft of innovative developments make concept more accessible than ever.

More data with less work

While working on exactly the same principle as the first version, the ProceScan 2 has significantly reduced the time and expertise required to keep the instrument running exactly as it should. For instance, a manual procedure was previously required to compensate for possible impacts on analytical performance. This was typically done once or twice a month. Now the instrument does this automatically every few seconds as part of every measurement cycle. Manual work is avoided and performance is improved with a significantly reduced cost of ownership and daily work for the operators.

Other features such as built in ID chips that continuously monitor conditions on vital instrument components also serve to make running as smooth and simple as possible.

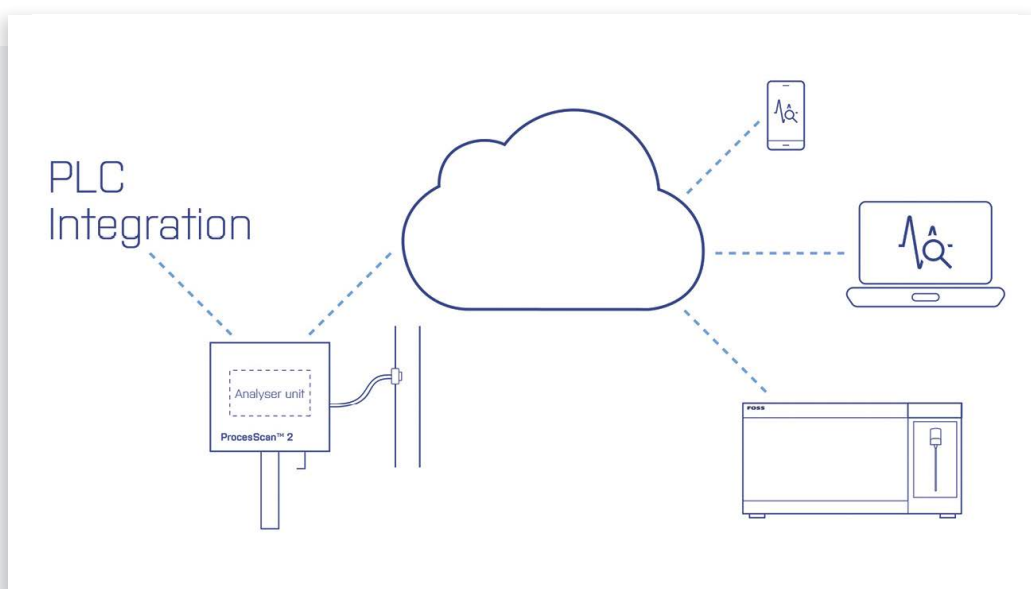


Figure 2:
Secure 'one-way'
communication with
control systems with
the option to use secure
cloud-based services
to help run the instrument.

What is interesting of all for would-be process analysis users, is the fact that the FTIR based solution is super fast to implement. The FTIR technology works on fundamental information derived from the mid-infrared spectrum. This produces strong and sharp spectral peaks giving a very clear signal and making the whole process of installing and adjusting the instrument to local conditions a straightforward task.

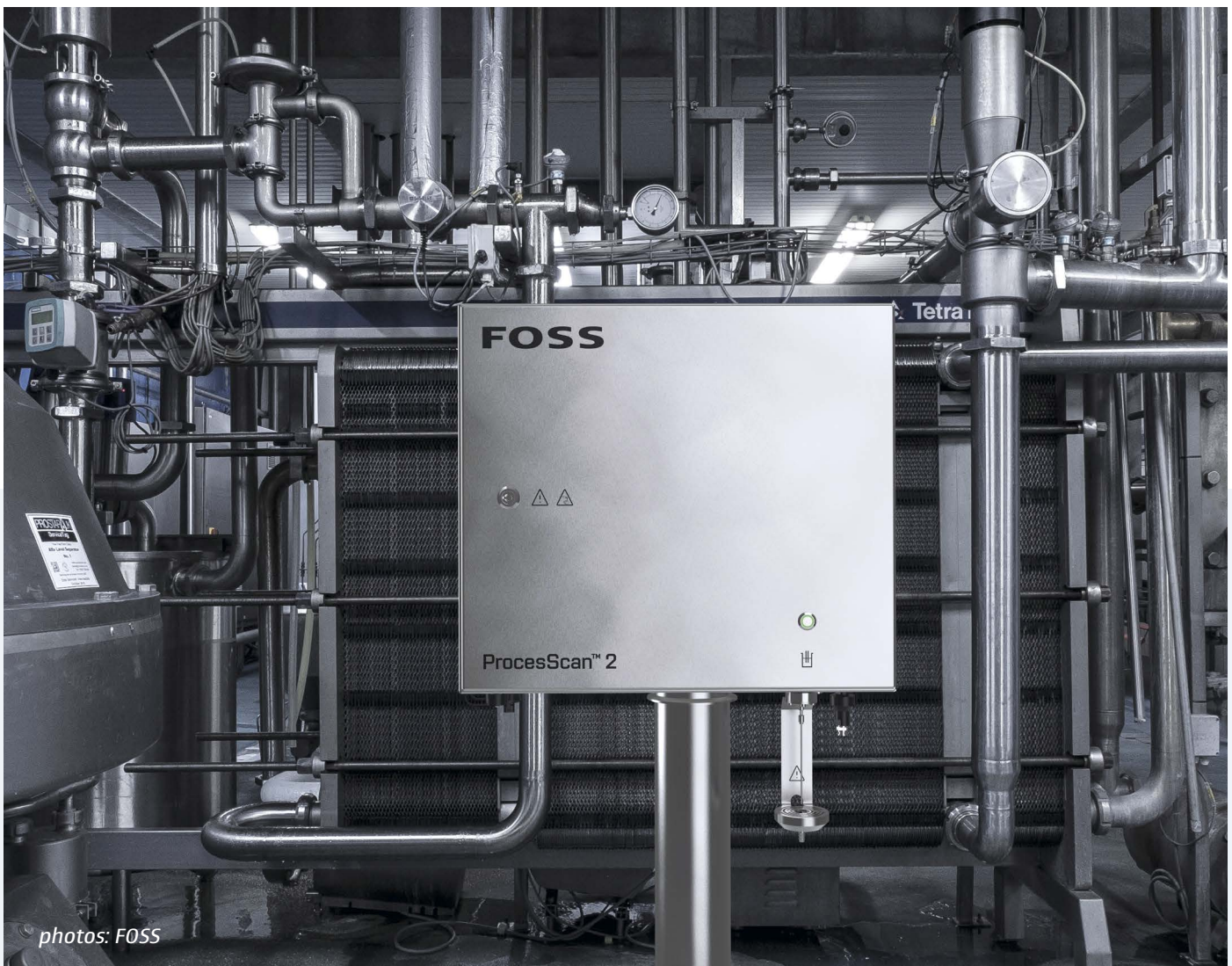
Secure, non-cloud interface to control systems

The solution includes an in-built Linux Processor, so no extra PLC is needed to interface with a PLC or Scada system. The open platform communications (OPC) standard is used as it is one of the most important communication standards for industry 4.0. The OPC-UA PLC interface is a state-of-the-art interface that does not involve the use of cloud technology thereby promoting cyber security. However, there is still the option to use cloud-based services to monitor and maintain the performance of the

ProcesScan 2 instrument. This is because the servers can only respond to input messages and can never initiate communication with clients. This paves the way for a range of cloud-based services from FOSS with top security (figure 2). In this case, no data from the local control system is shared with the analysis unit which is monitored and managed online via a separate system with no interference or connection to the local control system.

Key points when considering process analysis

Process analysis has considerable potential to improve the performance of automated control systems, but achieving gains demands an impeccable source of data for those systems to work with. A simple sensor is not up to the job. However, this does not mean that effective process analysis should require a lengthy and complex project. The development of FTIR solutions such as the ProcesScan 2 now make process analysis a practical choice for any dairy seeking to make more product from the same milk while also reducing dependency on human expertise in the plant.



photos: FOSS

BrauBeviiale 2023

Successful restart

Brau^{'23} Beviiale

BrauBeviiale 2023 in Nuremberg can look back on three successful days. After a forced break of four years, the European trade fair for the brewing and beverage industry was able to reopen its doors. BrauBeviiale 2023 has once again positioned itself well as a platform for the industry – predominantly in other European countries. Around 45 percent of the exhibitors are of international origin. IDM was on site and presents some interesting exhibits.

JUMO: Measurement technology and automation components

JUMO has been supplying the beverage industry with measurement technology and automation components for decades. Some of them are currently being used in a fully automated brewing plant. The system has a pump for water and the CIP function as well as another frequency-controlled pump for the mash and wort. The JUMO ZELOS C01 LS limit level indicator serves as dry run protection for both pumps. The new JUMO DELOS S02 pressure transmitter is used for level measurement of the hot water tank, mash tun and wort kettle.



The differential pressure measurement in the lauter tun was implemented with the JUMO TAROS S46 H.

JUMO flowTRANS US W02 is applied for quantity measurement of the main pour and the post pours. After the wort cooler, the new JUMO flowTRANS MAG H20 measures both the totalized flow rate and the temperature. Temperature in the respective containers is determined with the JUMO dTRANS T1000.

During CIP cleaning, the JUMO digiLine Ci HT10 determines the concentration of the different cleaning media via the temperature-compensated conductance.

Operation of the plant takes place via the JUMO variTRON 500 touch controller and the JUMO smartWARE SCADA software for process monitoring and control.

The recipes for the individual beer types as well as the individual CIP functions can be configured intuitively without programming skills using the browser-based software solution JUMO smartWARE Program. JUMO smartWARE Evaluation enables additional recording of all process parameters.

The JUMO measurement technology was recently installed in a fully automated brewery system (photo: JUMO)

Krones: Precision Fermentation

For plant-based products such as oat drinks, Krones has been offering the requisite process technology, in different variants with suitable line layouts, for some time now. In early 2023, the portfolio was expanded to include technology for precision fermentation.

In precision fermentation, animal or plant cells are programmed or optimised to create certain products like enzymes, fats, proteins, vitamins, flavourings and natural pigments. Proteins made by fermentation can then be combined with other ingredients and further processed to imitate meat, egg or milk products.

A concrete example for cultivating and replicating such proteins is biomass production. For this process, cells are placed in a tank, where their growth is stimulated. And that is where Steinecker comes in, with its own bioreactor. Developed on the basis of the Poseidon fermentation unit, which has proven its usefulness in the brewing arena, the bioreactor uses a circulation system instead of an agitator. The circulation system is equipped with aseptic valve technology from Evoguard and a low-shear aseptic pump. With this technology built into a sterile tank with familiar steam and condensate barriers, the system is ideal for both cell cultivation and fermentation.



The bioreactor from Steinecker is based on Poseidon and uses a circulation system instead of an agitator (photo: Krones)

The bioreactor from Steinecker is especially well suited for producers wanting to operate on a large scale. That is because, for tanks larger than 25,000 litres especially, it is far easier and more cost effective to integrate a circulation system than an agitator. The company can also deliver conventional bioreactors featuring an agitator instead of a circulation system.

KHS: Virtual Training Center

KHS has now pooled all of its training options under the KHS Campus label and supplemented this with a number of virtual study units. KHS customers can choose a suitable, authoritative training option for their machines with their order, for commissioning and during all phases of operation. Depending on requirements, these either take place on site, at KHS' various training facilities or as online seminars. New to the portfolio is the KHS Virtual Training Center (VTC), with which the systems provider is continuously expanding its range of study units available when and wherever required. "We've made a promising start with the concept of individual e-learning courses on our KHS canning lines," Ralf Müller, head of the KHS Training

Department states. "The asynchronous study option is designed to close the gaps that can't be covered by conventional forms of learning with physical trainers in real time. Here, short course units, films, presentations and descriptions in the virtual environment give participants answers to specific questions in a manner that's clear and entertaining. Users can move virtually to what are known as study points on a machine through an avatar, for example, and be shown how a valve is replaced with the help of dedicated film sequences." It is also possible for personnel to work their way through various units of a structured study program and obtain a score for the issue of a certificate. So that the virtual international training platform developed together with technology service provider Etteplan is universally applicable, various language versions have been planned. The licenses required for the VTC are personalized and can be booked per employee for a fixed term and period of use. Users are given their own access to the KHS Campus Virtual training platform that stores their level of knowledge and individual study goals, also anonymously if required, thus providing the maximum study incentive.

With its new Virtual Training Center (VTC) KHS is continuously expanding its range of study units available when and wherever required (photo: KHS)





The new QWX43 fermentation monitor in use (source: Endress+Hauser)

Endress+Hauser: Food Safety

Endress+Hauser presented digitalization solutions and services for hygienic production processes and utilities for the food and beverage industry. One focus of the trade fair appearance was on the topic of food safety. The measurement and automation technology provider presented accredited calibration services as well as self-calibrating and monitoring measurement technology. With numerous device innovations, Endress+Hauser showed how the plant operator can monitor fermentation processes, disinfection measures and water circuits online and how measurement technology can support the realization of Industry 4.0.

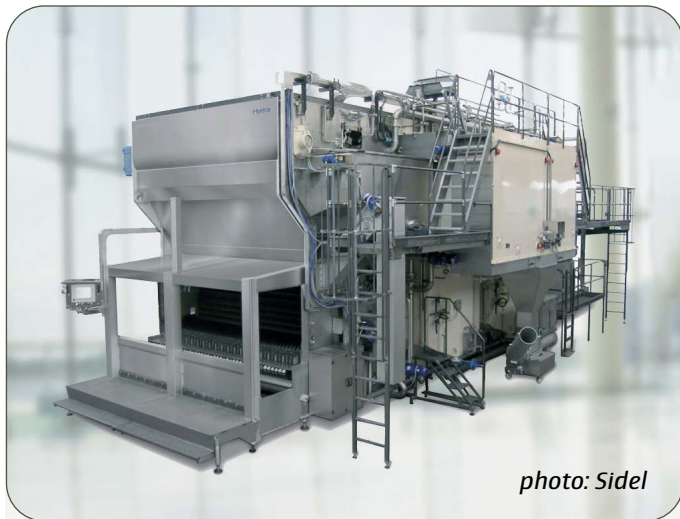


photo: Sidel

Sidel: Hydra Ultrasonic

Sidel was showcasing its complete turnkey packaging line solutions for beer and other beverage categories. Specifically designed to boost the industry's profitability and sustainability goals, the equipment and services focus on designing, building and maintaining full-lifecycle performance. They also provide future-proof solutions to beverage challenges in Can, Glass and PET. Hydra Ultrasonic is Sidel's latest generation bottle washer with ultrasound technology for returnable glass and refillable PET bottles. According to the company it offers the lowest carbon footprint on the market, energy & water reduction, TCO savings and a highly compact layout.

ProMinent: Metering and water treatment technology

Among the highlights of Prominent was the UV system DULCODES LP, designed specifically for use in the food and beverage industry. The System meets hygienic design requirements, is CIP-capable (cleaning in place) and is equipped with FDA-compliant materials. The metering system DULCODOS compact is used for the ultra-precise metering of chemicals. It has a modular construction and can be flexibly integrated into a wide range of applications. The stainless steel version is supplied ready to connect for immediate use in the food and beverage sector.

The motor-driven metering pump Sigma designed specifically for hygiene applications enables precise and hygienic metering. All of the liquid end's wetted materials are physiologically safe in accordance with the FDA and Regulation (EC) No 1935/2004.

With the new radar level sensor DULCOLEVEL, the company offers a complete chemical management solution in combination with the secure IIoT platform DULCONNEX, including convenient app-based configuration.

The peristaltic metering pump DULCOFLEX DFXa precisely meters viscous media and media containing solids at feed rates of up to 65 l/h. It can be supplied with a hose that is physiologically safe in accordance with the FDA and Regulation (EC) No 1935/2004 and is therefore suitable for use in the beverage and food industry.



Designed specifically for use in the food and beverage industry: The UV system DULCODES LP (photo: ProMinent)

Optimizing cleaning processes sensibly

Horpovel® GmbH

Horpovel® GmbH specializes in ensuring the production of flawless dairy products. As an expert in the manufacture of cleaning and disinfecting products for the dairy industry, she focuses on the cleaning optimization of filtration systems, among other things.

Can membrane filtration also be optimized?

Yes, with membrane filtration it is often the case that the cleaning concept is oversized. By closely examining the cleaning requirements, it is possible to determine which cleaning steps are necessary in which form, duration and frequency and which are not. For example, in RO plants for whey, which are not operated at full capacity, it is quite possible to suspend enzymatic cleaning on a daily basis.

Furthermore, cleaning steps are often carried out that have little effect on the cleaning result (e.g. enzymatic cleaning steps in plants that do not filter products containing protein).

Are there any other advantages?

On the one hand, the wastewater load can be reduced by using the necessary ingredients precisely, and on the other hand, the rinsing quantities can be reduced by avoiding overdosing.

How high are the average savings potentials with CIP optimization?

When cleaning the production and filtration systems, savings of up to 40% can be achieved by optimizing the CIP cleaning steps in terms of time and sequence and by using high concentrates.

What measures are possible?

1. Optimization of the rinsing phases
2. Optimization of the step sequences
3. Optimization of the circulation times

After analysing the actual condition and determining the target condition, the effective duration of the cleaning steps can be measured and set on site. In addition, flushing can be adjusted using special measuring technology.

What does Horpovel® want to achieve with its customized cleaning concepts?

The aim is a cost-optimized, comprehensible and easy-to-use cleaning concept with which you can meet the increasing demands of your customers and authorities. The optimization of cleaning processes focuses on the efficient and sustainable use of available resources.

For further information please visit our homepage www.horpovel.de/press

Application-specific cleaning processes

Good cleaning is results-orientated, cost-effective, reproducible and achieves a stable result. For this reason, Horpovel® GmbH has developed application-specific cleaning concepts for its customers. These concepts are used both in the area of general CIP cleaning and in membrane cleaning.

Horpovel® GmbH sees itself not only as a manufacturer and supplier of cleaning agents and disinfectants, but also as a partner for the development and further development of cleaning chemicals and strategies to optimise your cleaning processes.

- innovative
- certified
- cooperative
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Horpovel®
Efficient cleaning processes

Further information can be found summarised on our homepage www.horpovel.de

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Fi Europe2023

Global F&B industry reunites in Frankfurt



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Fi Europe 2023 has shown that there is more demand than ever for a dynamic platform uniting the international ingredients industry. The last edition attracted 23,149 visitors from 135 countries around the globe. Fi Europe is set to return to Frankfurt from 19.-21. November 2024. IDM was on site and reports here on some of the innovations.



Hydrosol: Vegetable-based cream

In the field of dairy products, Hydrosol focused on the best-selling product: vegetable-based cream. Cooking and whipping creams based on vegetable fat have long shelf lives, offer cost advantages compared to conventional cream and in addition, vegetable fat is usually available at any time. The final products are more stable and convince with individual properties. With the stabilising and texturing systems from the Stabimuls ICR range, manufacturers can produce creams with significantly higher whipping volumes and sturdier foam structures than conventional cream. Furthermore, variants which are freeze-thaw-stable are also possible. Whereas the systems from the Stabisol Vega range reveal cooking creams with flexible fat contents of between 10 and 30



In the field of dairy products, Hydrosol focused on the best-selling product: vegetable-based cream (photo: Hydrosol)

percent. These are heat-stable and resilient against acids and do not coagulate even when alcohol is added. There is also a variant which combines both advantages – making it suitable for cooking and whipping. .



CP Kelco showcased a variety of additional new prototypes including a high-protein yogurt alternative made with label-friendly GENU Pectin (photo: CP Kelco)

CP Kelco: Indulgent texture

“With the demands and stresses of our daily lives, consumers are turning to indulgent food and beverages for comfort. However, they still prioritize their health and wellness and are mindful of the environment,” said Camille Berdugo, CP Kelco Senior Marketing Specialist. “When making food and beverage choices, consumers do not want to compromise on sustainability, wellness or enjoyment, while also keeping an eye on their budget.”

CP Kelco showed how it is possible to achieve indulgent texture in products that are “good for you” and good for the planet. Using the company’s nature-based ingredients, some of which are upcycled, extracted from plants, or derived from fermentation, it is possible to indulge with no compromise. “For example, consumers are buying more vitamin and mineral supplements than ever and will choose a soft and chewy gummy that tastes like a confectionery treat but is made without animal-based gelatin,” said Berdugo.

CP Kelco also showcased a variety of additional new prototypes including a high-protein yogurt alternative made with label-friendly GENU Pectin and an oat-based matcha latte alternative featuring KELCOGEL Gellan Gum for excellent suspension and smooth mouthfeel.

ofi wins FI Europe award

ofi's Carbon Scenario Planner (CSP), a new digital tool developed to help food and beverage manufacturers model the impact of different scenarios for reducing greenhouse gas emissions has won the 2023 Sustainability Innovation Award at Food Ingredients Europe in Frankfurt

The CSP allows ofi to model the outcome of different decarbonization interventions tailored to local contexts, so it can work with its customers to plan and cost out climate actions. It helps ofi customers tackle the complex and challenging issue of Scope 3 emissions which occur in a company's value chain and make up the bulk of the food and beverage industry's carbon footprint.

Dr Christopher Stewart, Global Head of Sustainability at ofi, said: "We're delighted that Food Ingredients Europe has chosen to recognize the progress we've made. For our customers, knowing where carbon emissions are coming from in their supply chains is critical to understanding how to reduce them cost-effectively, and meet science-based climate targets. The Carbon Scenario Planner translates ideas into detailed, robustly modelled scenarios that can deliver long-term greenhouse gas reductions."

The tool is embedded into ofi's sustainability management system AtSource, which provides customers with data and insights for use in reporting their environmental, social, and economic impacts.

ofi has won the 2023 Sustainability Innovation Award (photo: ofi)



AB-BIOTICS spotlighted B. coagulans Unique IS-2 (photo: AB-BIOTICS)

AB-BIOTICS: Highly stable probiotic strain

AB-BIOTICS spotlighted B. coagulans Unique IS-2, a new clinically tested probiotic strain that aims to raise the bar for stability across food applications – even under a wide range of temperatures and extreme processing conditions. This probiotic strain boasts high stability and resilience, allowing manufacturers to incorporate it into a wide variety of processed food applications. Backed by over 25 clinical studies, B. coagulans Unique IS-2 has been shown to support digestive health, enhance protein absorption and boost immunity, in line with growing consumer demands for functional foods.

SternVitamin: Trend-oriented premix solutions

SternVitamin presented selected premix solutions to address current trends. The focus was on three micronutrient pre-mixes that have been incorporated into various applications. The SternCogni+ premix, whose functional ingredients boost cognitive performance in old age, was presented in gummies, a trending application. The company meets the Beauty from Within trend with an instant beverage powder fortified with the SternHolisticBeauty premix. Meanwhile, SternVitalityV offers something new for the booming plant-based market: incorporated into a vegan coffee drink the micronutrients provide new energy.

SternVitalityV offers something new for the booming plant-based market (photo: SternVitamin)



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FMCG Gurus

Top Trends for 2024



Author: Kate Kehoe,
Marketing Executive at FMCG Gurus

This article is based on FMCG Gurus:
Top Ten Trends for 2024 –
Global Report & FMCG Gurus:
Top Ten Trends for 2024 - Trend Digest.



As we step into the ever-evolving world of the global food, drink, and supplement markets, it is crucial for brands to anticipate and stay ahead of the key trends that are shaping consumer behaviors and attitudes in the coming year. The markets have been shaped by a prevailing theme of uncertainty and worry, as consumers face challenges such as war, the pandemic, price inflation, and growing pressures on food systems. As a result, consumers have accepted the inevitability of uncertainty and have adopted a day-to-day focus, striving to protect their physical and emotional wellness.

The Top Ten Trends FMCG Gurus have identified for 2024 are as follows: 1) Maximize My Value 2) Green Horizon 3) My Plate, My Profile 4) Strive for Happiness 5) Natural Harmony 6) Breaking Barriers 7) Tech Meets Taste 8) For Today, Better Tomorrow 9) Pursuing Simplicity 10) Revive & Thrive. This article will explore the first five of our trends and provide actionable recommendations for brands operating in the FMCG industry in 2024 and beyond.

Maximize My Value

53% of global consumers are actively looking to reduce spending on food and drink (FMCG Gurus, 2023).

Consumers are feeling the impact of price inflation and are actively trying to cut down their expenses on food and drink. As consumers adopt recessionary spending habits, brand loyalty decreases, and they become more willing to explore shopping options. Despite this, consumers will aim to minimize compromises. They will seek resourceful ways to avoid going without, such as reducing food waste and taking advantage of promotional offers. Brands should respond by introducing packaging innovations to extend the shelf-life of products and provide personalized promotional offers that cater to individual needs.

Spending reductions are expected for non-essential and convenience-driven occasions. However, consumers still desire daily treats and rewards without compromising. Many individuals are now seeking more premium treats through retail channels. It is crucial that these indulgences remain affordable and do not result in post-consumption guilt. The retail sector is witnessing a growing demand for premium treats as consumers seek to recreate restaurant-quality experiences at home or enjoy small indulgences for moments of escapism and socializing with loved ones.

Green Horizon

8 in 10 global consumers would trust a company more if they were using regenerative farming (FMCG Gurus, 2023).

Consumers are increasingly aware of the impact of climate change on food production chains and recognize that agriculture itself contributes to this issue. They expect all producers, regardless of size, to adopt resourceful and environmentally friendly practices that preserve biodiversity and natural resources. This scrutiny extends not only to large multinational corporations but also to small-scale and local producers.

Upcycled ingredients have gained appeal due to their ability to address the pressing issue of food waste. Brands must demonstrate resourcefulness throughout the supply chain to align with consumer values. However, while consumers acknowledge the urgency of the climate crisis, sustainability claims alone do not solely drive purchasing decisions. Environmental messages can be overwhelming, especially during uncertain times, and the association of such products with higher prices can deter consumers. In reality, shopping habits are not solely driven by altruism. Therefore, brands should promote the value of environmental products by highlighting additional benefits.



My Plate, My Profile

28% of global consumers say they have made greater efforts to use apps to monitor their diet and lifestyle closely (FMCG Gurus, 2023).

The popularity of health monitoring apps continues to grow as individuals recognize the impact of their DNA and unique genetic makeup on their well-being. This trend paves the way for the next wave of innovation in the health and wellness market: personalized customization based on genetic sampling. This is particularly relevant given the growing understanding of the importance of a healthy gut microbiome. While questions may arise regarding the accuracy and ethical implications of such personalization, consumers will expect technological advancements to enable real-time health monitoring and offer tailored solutions that cater to their specific needs and goals.

Strive for Happiness

57% of global consumers say they have looked to improve their mental well-being over the last year (FMCG Gurus, 2023).

In recent years, rising prices and the fast-paced nature of our post-pandemic world have had a significant impact on consumers' emotional well-being. As a result, a large number of consumers are actively searching for ways to improve their mood and enhance their mental well-being. When asked about their definition

of good mental well-being, consumers consistently prioritize happiness as a fundamental aspect. They are inclined to step back from the pressures of daily life and reassess their priorities, leading them to prioritize better sleep habits and healthier eating patterns.

Natural Harmony

59% of global consumers say they have become more attentive to ingredient listings over the last year (FMCG Gurus, 2023).

Consumers are actively paying attention to the ingredients used in product formulations and are seeking to make quick and informed decisions about the nutritional profile of a product.

An emphasis on realness and authenticity is strongly valued by consumers. They are seeking products that they perceive as natural, as they believe these are better for both their own well-being and the environment. This drive for authenticity has led to an increased demand for products with free-from claims and streamlined ingredient lists. However, it is important to ensure that any streamlining of ingredients is not misunderstood as a cost-cutting exercise, as consumers value both authenticity and quality.

MULTIVAC Group

New production site in India



MULTIVAC Group has officially opened its new production site in India (photo: MULTIVAC Group)

After a construction period of less than two years, the MULTIVAC Group has officially opened its new production site in India. Thanks to an investment volume of around nine million euros, the ultra-modern building complex for Sales and Production features a floor space of 10,000 square metres. Around 60 people will be employed at the site. The goal is to optimise supply to customers in India, Sri Lanka and Bangladesh through regional proximity and shorter delivery times.

The company now has 13 other production sites in Germany, Austria, Spain, Brazil, Bulgaria, China, Japan and the USA, as well as more than 80 sales and service companies worldwide.

The demand for packaging machines for fresh food is constantly increasing in

India, Sri Lanka and Bangladesh, as supermarkets are gaining in importance alongside traditional local markets. "With our new plant in India, we will be able to provide food manufacturers as well as medical device companies with even better state-of-the-art packaging technology and responsive service thanks to our regional proximity and new production capacity – from production to installation and putting into service, through to maintenance," explained Christian Traumann, CEO of the MULTIVAC Group.

The new plant will go into operation in the second quarter of 2024. In a production area of around 5,000 square metres, MULTIVAC will initially start assembling small fully automatic traysealers and compact thermoforming packaging machines. The production of mould sets and dies for packaging machines is also planned

from 2025. The site also has a hall area for the storage of spare parts and consumable material, which MULTIVAC can make available to its local customers faster than ever before.

Showrooms and training centres

The new plant is more than just a production facility. Part of the multifunctional building is an area of around 5,000 square metres, which includes a showroom and a training and application centre for packaging and bakery machines. "This infrastructure offers our customers, technicians and sales staff here on site the opportunity to delve even deeper into the world of processing and packaging technology and to jointly develop and test customised solutions," summarised Ritesh Dhingra, Managing Director of MULTIVAC India.

OlbrichtArom

Functional Flavours with masking functions

OlbrichtArom, a specialist in customized flavours, has added masking functions to its Functional Flavours line. With the DairyEnhancer and SugarBooster, the company offers innovative solutions that help manufacturers develop great-tasting food products with added benefits.

OlbrichtArom's DairyEnhancer improves the flavour of dairy products and enables cost savings by reducing expensive recipe ingredients without compromising on taste or mouthfeel. The flavour enhances the creamy, fatty taste in dairy products such as milk, cream, yogurt, quark, and similar products. It also masks sour notes, and can be used in low-fat products to give them a flavour and mouthfeel similar to that of products with a higher fat content. In addition, DairyEnhancer helps to mask unpleasant off-flavours, for example in vegetable fats or nutrient-rich applications with proteins, vitamins, or minerals.

OlbrichtArom's SugarBooster was specially developed for products with a low sugar content and enhances the overall flavour profile without masking the specific taste.



OlbrichtArom has added masking functions to its Functional Flavours line (photo: OlbrichtArom)

This preserves the positive properties of sugar in flavour and mouthfeel.

These flavourings can be used as a powder or in liquid form. They may be declared as "flavouring" or "natural flavouring" and are suitable for vegan, vegetarian, and halal-compliant diets.

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Ukrainian dairy in wartime

Author: Tatyana Antonenko

The first weeks after the invasion of the Russian troops into Ukraine in February 2022 became a shock for people and for the country's economy. The dairy industry was in extremely hard circumstances, the logistics of the very sensitive product – raw milk – were broken. The usual routes of supply were cut and many farms were ruined. By the end of 2022, the number of cows in industrial farms has shrunk from 425 to 380 thousand. Even more drastic was the reduction of the cow number in people's homestead farms: from 1119 thousand down to 954 thousand. In 2023 industrial farms managed to avoid the reduction, but the number of cows in homestead farms continued to fall.

Since the first weeks of the war, both dairy farms and dairy processing plants had to do a huge job of finding new routes to restore the supply chain. Much milk was distributed among the population for free, dairies were arranged to supply their products to the Armed Forces. Ministry of Agrarian Policy and Food organised the government procurement of some products from dairies and it was a very timely decision, as the domestic dairy consumption became much lower after millions of people were forced to leave the country.

Now, when the second year of the war is near its end, it is clear that the Ukrainian dairy industry appears to be sustainable and capable of adapting to extremely

difficult conditions. Blackouts caused by target fire of the country's energy-generating facilities by the Russian army made buying autonomous energy generators a must for the dairies. The map of milk suppliers has changed, as 39 dairies found themselves on the temporarily occupied territories, 2 dairies were ruined. The lack of personnel problem arose because many people were drafted into the Army.

Raw milk supply

Ukrainian dairy farming has been undergoing a lot of stress since the first days of the Russian invasion. Both milk-producing sectors – industrial farms and homestead farms (households) producing 34% and 66% of total annual milk yield respectively, in the year 2022 produced only 85% of the volume they provided a year before.

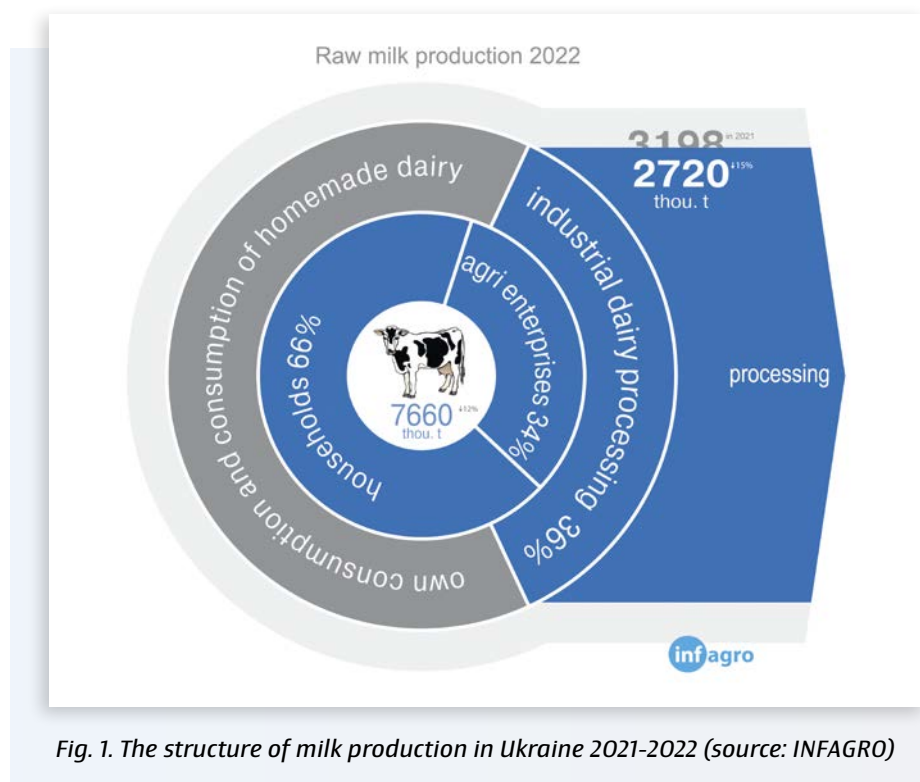


Fig. 1. The structure of milk production in Ukraine 2021-2022 (source: INFAGRO)

The mining of fields reduced the possibility of growing fodder and in many cases caused the death of farmers who cultivated these fields. Of course, there were also direct losses because of the military actions. According to the preliminary estimates of the State Statistics Service of Ukraine, cow herds in industrial dairy farms shrank by 45 thousand cows to 380 thousand cows. This figure shows losses due to damages or targeted destruction of dairy farms without the losses on the territories which are temporarily occupied. The estimates of AVM (Association of Milk Producers of Ukraine) with these losses taken into account, say that more than 100 dairy farms were destroyed, therefore the reduction of the dairy herd is more significant.

In 2023 industrial dairy farms located in relatively safe regions built up the milk production, so, despite the losses in cow number the volume of milk produced has grown. Considering the share of dairy

farms in milk supply for processing (88%), in 2023 the volume dairies can expect to purchase is higher than in 2022.

The difficulties in the transportation of grain through traditional Black Sea routes and the border blockade of the newly developed overland routes by some Eastern EU countries led to a decrease in the operation costs of dairy farms. Simultaneously, the purchase price of milk began to skyrocket and this made the margin as high as 43% in autumn 2023.

This combination of circumstances hindered the intentions of the processors to earn from export operations. But at the same time, there appeared declarations of some dairy farms to invest in building up milk production. Even some dairy processing companies made public their intentions to invest in dairy farming for reliable raw milk supply.

Dairy production and consumption

As it has always been since 2008, despite the war, at the end of November, the annual XV National Conference DAIRY BUSINESS gathered delegates from Ukrainian dairies to summarize the outcome of the last year for the dairy industry and speak about the prospects of dairy production. The main findings are below.

It is no surprise that most of the dairy production indicators have fallen. After the sharp decline in dairies' milk purchase from 3.2 mn t in the pre-war 2021 to 2.72 mn t in 2022, in 2023, of 7.36 mn t raw milk produced by all categories of raw milk producers, dairies got for processing 2.96 mn t. 88% of this milk was produced in industrial dairy farms and 12% in homestead farms. At the conference, speaking on the current state of Ukrainian dairy, Vadym Chagarovsky, Head of Dairy Union of Ukraine stressed that industrial milk production will grow even in war conditions and the data of 2023 confirm it. Milk production in homestead farms will continue to fall.

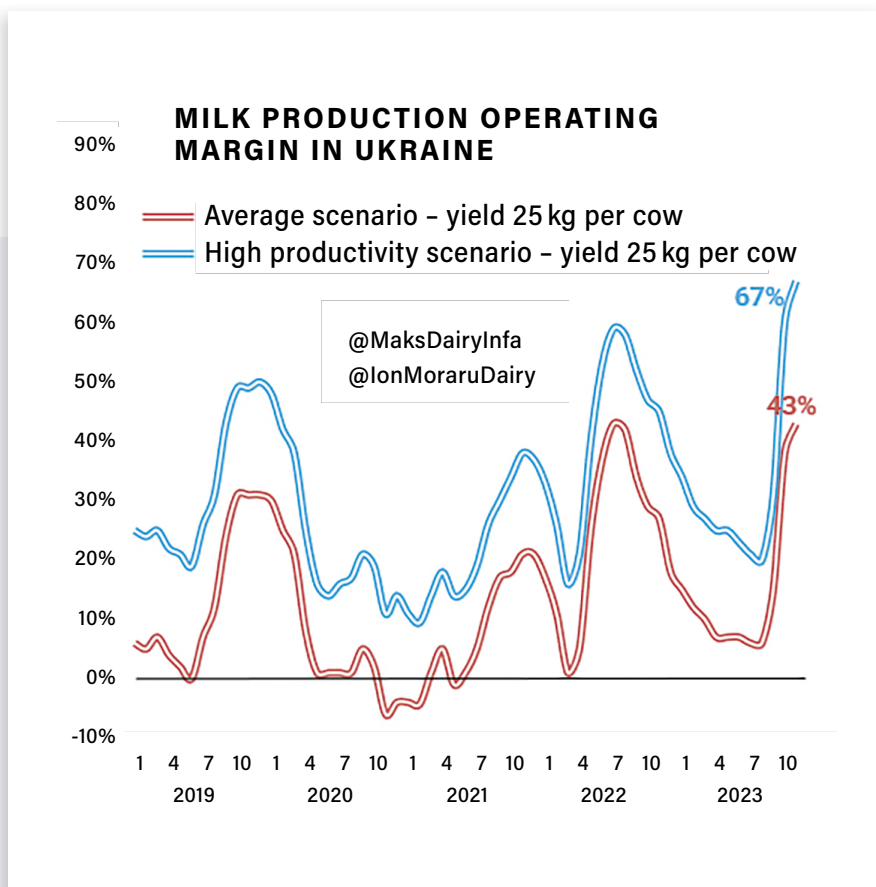


Fig. 2. Operating* margin of raw milk production 2019-2023

* The price of milk minus costs for operational activities (feed, wages, energy, administrative costs, other, excluding investment costs, depreciation and subsidies).

Calculations are based on two types of rations, under the result of 25 kg of milk per day for agricultural enterprises of all types (average) and under 35 kg of milk per day on highly productive farms. Dry periods (with a separate diet) are also taken into account. The models take into account the market (spot) prices of grain and oil crops, which mainly affect the change in operating costs in the short term. The models were developed together with Ion Moraru, a specialist in meat and dairy farming.

The dynamics of changes in dairy production is seen from the graphs.

The main problem of the Ukrainian dairy industry now is the acute shortage of raw milk. Considering the reduction of the number of cows in homestead farms, the self-provision by dairy produce has been shrinking and people who were consumers of the homemade dairy products will switch to consuming the dairy of industrial production.

In 2023 general dairy consumption began to grow due to the increase of consumers' number. People, who left the country in the first months of the war began to return home (about 1 mn returned). Nevertheless, consumption per capita is expected to decrease because of the dairy product price growth and the low purchase capacity of Ukrainian consumers.

Dairy exports and imports

In 2022 the imbalance of demand and supply of raw milk arose because of the consequences of the full-scale invasion of the Russian Federation in Ukraine. There were generated additional volumes of milk fat and this resulted in high exports of Ukrainian butter. The opening of the European market and global inflation supported the growth of dairy exports. 14 thousand tons of butter were exported setting Ukraine 10th in the world ranking. Butter and SMP were exported in volumes bigger than in previous, pre-war 2021. Low raw milk domestic prices and high dairy prices on the global market were supporting the competitiveness of Ukrainian exports in 2022 and the beginning of 2023.

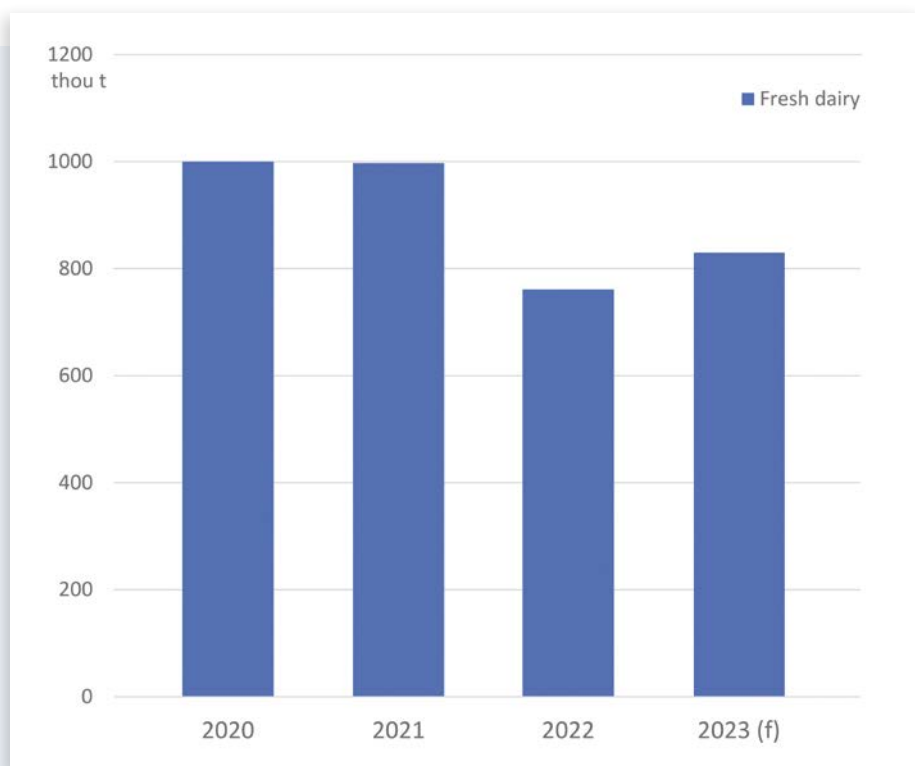


Fig. 3. Dairy production: fresh dairy products 2020-2023 (source: INFAGRO)

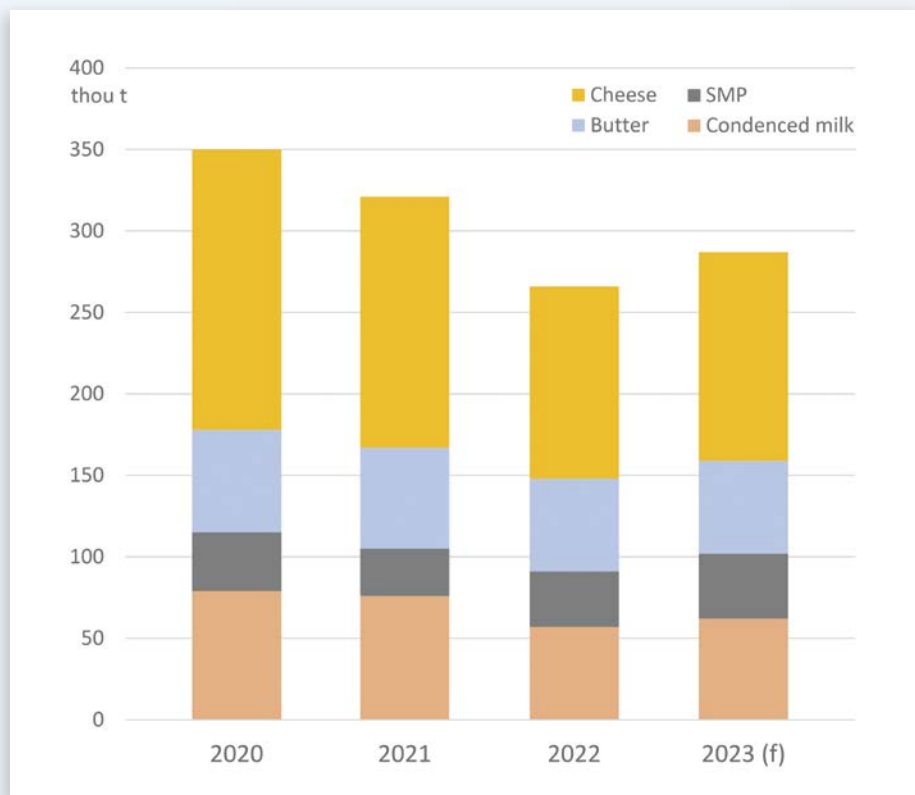


Fig. 4. Dairy production: cheese, butter, SMP, condensed milk 2020-2023 (source: INFAGRO)

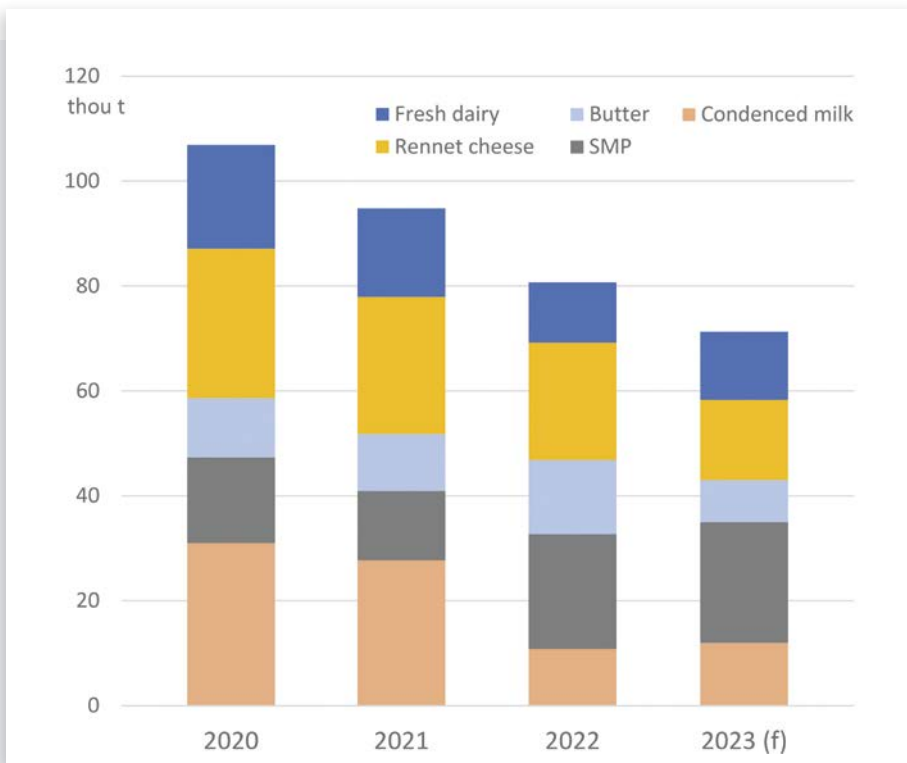


Fig. 5. Dairy exports 2020 - 2023 (source: INFAGRO)

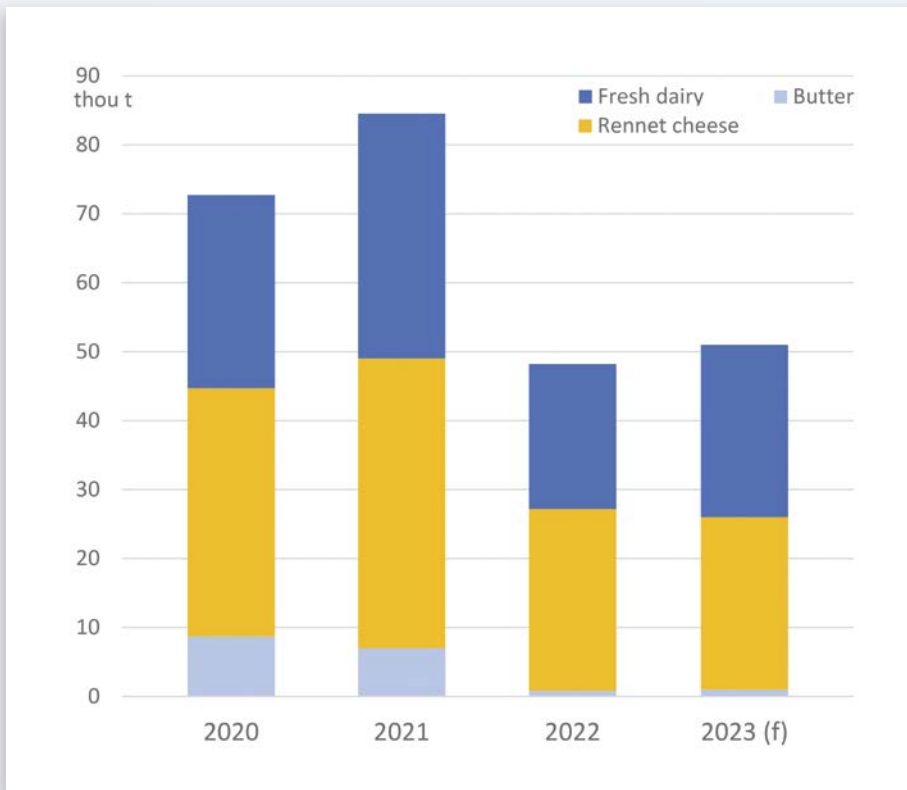


Fig. 6. Dairy imports 2020-2023 (source: INFAGRO)

In 2023 the situation changed: in autumn 2023 the raw milk prices began their unprecedented growth on the background of low dairy prices on the global market and this was not in favor of exports.

As to the dairy imports, in 2022 it shrank considerably. In 2023 it showed a little growth and as all analysts agree, this trend will be strengthening.

It is worth mentioning, that at the DAIRY BUSINESS conference, despite the enormous hardships and challenges Ukrainian dairies are facing, the dairies' representatives were discussing the future of the dairy industry. Alexander Anton, Secretary General EDA, speaking to the conference delegates, said that "looking ahead, our shared agenda focuses on 3 key points beyond 2024:

- » Long-term commitment to a 'No tariffs, no quotas' approach in reciprocity
- » Integration of Ukrainian dairy in the EU's €50 Billion investment program
- » Advocating for a CAP from 2027 that's 'fit for Ukraine'

These objectives reflect our dedication to fostering a strong future for Ukrainian dairy within the European landscape."

The war demonstrated the ability of the competing Ukrainian dairy companies to join their efforts to preserve their industry and businesses to continue operating under any conditions. This is an invaluable experience which, fortunately, other European countries have not been having to gain.

Lab-grown ingredients: where we stand today



Author: Alexander Anton

Lab-grown have not yet been introduced to European markets but their ingredients pose a new question for the EU regulatory framework. EDA has published a position paper that looks at the different technologies currently used as well as regulatory aspects including the question of labelling.

For some years now start-up companies have been experimenting and developing new food technologies that make it possible to grow in the laboratory specific bio-identical proteins imitating for example milk proteins without the use of animals.

So far, two production technologies exist: Cell Culture Technology and Precision Fermentation. In Cell Culture Technology, cells are taken from a living animal and grown in a special container called a bioreactor. These cells are fed a mixture that has the nutrients animals need, like amino acids, glucose, vitamins, and salts. The mixture is adjusted to make the cells grow into specific types. This process imitates what happens naturally in animal bodies. Precision Fermentation uses tiny organisms instead of animal cells to make proteins. These organisms, like yeast, act as “cell factories” to produce specific ingredients. The variety of things that can be made is huge. It includes proteins biosimilar to those found in milk.

Novel Food or GMO?

In Europe, the rules differ based on whether the food involves genetically modified organisms (GMOs). If the technique used to create cell-cultured or precision-fermented food falls under the scope of GMO regulations, those rules take precedence. The same applies to alternative protein products that have GMOs.

The European regulation makes a distinction between food produced from a GMO and food produced with a GMO. If material derived from the genetically modified source is present in the final food product, it falls under GMO regulations. However, if the genetically modified material is used in the process but isn't present in the final product, it's considered as produced “with” the GMO rather than “from” it.

To determine this, the crucial factor is whether the final product contains DNA-proteins from the host organism. If a genetically modified micro-organism (GMM) is used in fermentation but is not present in the final product, it's not covered by the GMO regulation. On the other hand, if the GMM is present in the final product, it falls under GMO regulations in terms of authorization and labelling.

It's therefore GMO if the final product contains host DNA-proteins.

Novel Food

Currently, all non-genetically modified (non-GM) novel foods are evaluated under the ‘new’ Novel Food Regulation, adopted in 2015 (EU/2015/2283). This regulation applies to foods not consumed in Europe before 1997.

In May 2023, the European Food Safety Authority (EFSA) mentioned that they haven't been asked to evaluate any food derived from cultured animal cells yet. However, they have assessed novel food ingredients produced through precision fermentation.

COLLABORATION BETWEEN TETRA PAK AND ABSOLICON Module for renewable thermal supply to power UHT equipment line

Tetra Pak has announced a collaboration with Absolicon, a Swedish solar thermal company, to offer a standardised solution for industrial equipment powered by renewable thermal energy (heat).

Absolicon has designed a scalable solar thermal module that can be integrated with current and new UHT lines and enable a range of decarbonisation options, including a reduction of greenhouse gas emissions, based on the customer requirement and location.

Tetra Pak's UHT processing line for high temperature sterilisation of dairy products is the first solution to be offered together with a scalable solar thermal supply, with the potential to reduce fossil fuel usage by up to 40%. The first module is forecasted to be installed during 2024, before scaling to a worldwide market.

Said Nicole Uvenbeck, Director Factory Sustainable Solutions & OEM Components, Tetra Pak: "At Tetra Pak, we are committed to enabling our customers to improve their environmental footprint through optimising their operations and equipment. We recently launched a new business solu-

tion called Factory Sustainable Solutions, where we help our customers optimise energy, water and CIP on a factory level.

"Absolicon's solar thermal solutions are a good fit with this new Tetra Pak offering, as well as supporting our wider Net Zero Roadmap, where we have committed to reducing our value chain emissions and scaling decarbonisation solutions for our suppliers, customers and own operations. The collaboration with Absolicon is a positive step in this direction, providing Tetra Pak with a new and exciting avenue to support customers to reduce their energy demands by replacing fossil-derived energy with solar thermal solutions."

Added Joakim Byström, CEO, Absolicon: "By implementing clean thermal supply to their equipment, Tetra Pak are once again proving they are pioneers. They have global access to the world's food and beverage companies and can become a change driver for the sector's transition from fossil fuels to renewable heat. We are delighted to be part of this collaboration with Tetra Pak and to launch the first equipment line powered by Absolicon solar thermal, as part of our mission to reduce the world's carbon emissions."

It's important to note that while the protein produced by these technologies may be considered novel food, the microorganisms used in the production might not fall under the Novel Food Regulation. Some of these microorganisms, like those used in the meat substitute product Quorn, have a long history of use in the EU, despite being produced through innovative methods.

Novel Foods need to follow the standard labelling rules mentioned in Regulation (EC) No 1169/2011. There might be extra rules for labelling these new foods to make sure consumers are well-informed. The label must include the food's name and, if needed, explain how to use it.

Labelling of the final food

When it comes to foods made using cell culture technology or precision fermentation, especially those meant for dairy products, there's a question about what to call the final products.

If any ingredient produced through these technologies is used in a dairy product, it's seen as a replacement for parts of milk. According to EU rules, a product that includes these ingredients can't be labelled as a dairy product, either wholly or partly.

For over 30 years the EU legislative framework on the protection of dairy terms has provided European citizens a clear knowledge of what milk and milk products are and has protected them from being misled. EDA and its members are committed to consistently protect and preserve dairy protected terms, including new foods and food ingredients.

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