

MEATING POINT

magazine

SUSTAINABLE TECHNOLOGY, PROCESSING & PACKAGING

NATURAL & ORGANIC FOOD PARADIGMS



**FULL FOCUS ON SUSTAINABILITY:
SEALPAC PRESENTS INNOVATIVE
PACKAGING CONCEPTS**

**HEAT TREATMENT OF
MEAT PRODUCTS –
HOW MUCH IS NECESSARY?**

**HPP, THE BEST WAY TO EXTEND
SHELF-LIFE WITHOUT
CHEMICAL PRESERVATIVES**

SAFETY

- Unique process to generate perfect sealing surface.
- Guaranteed state of the art seal integrity equal to traditional plastic packaging.

FLEXIBILITY

- Availability of different liners and paperboards offers technical solutions to suit any product.
- Presented for Top Seal, Modified Atmosphere and Vacuum Skin formats.
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MINIMUM SIZE MAXIMUM SKILLS

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- Liner forming with Zero waste technology reduces cost of final package.
- Reduced inventory with availability of smaller purchase quantities.



Dear reader,

Consumers demand for natural and healthy products is on rise, and it even shows a rapid movement from trend to industry standard. Products that give an impression that they are fresh, clean, “natural” and less processed are of great appeal to consumers. However, there is no doubt that there is a certain misconception about what “natural” stands for when it comes to food and ingredients. More mainstream consumers find the words “clean” and “natural” confusing, as there isn’t any one singular definition, and it can vary from country to country. The definition of “natural” becomes even more complicated for the rising number of consumers seeking for humanely raised and healthy meat and dairy products. Another hot trend for consumers is the importance of ingredients list, as they are looking for free from additives and artificial colours.



Jenny Smart

In his article, Natural and Organic Food Paradigm, Henk Hoogenkamp claims that “it is important for all natural and organic food products to be subjected to a vigorous set of standards of identity as what is considered natural”. Read on pages 28 - 33.

In this issue, you will find a case study article on how Marel Poultry’s advanced and innovative turkey processing equipment has been installed at the Grodzisk Wielkopolski processing plant of Indrol, one of Poland’s leading high volume turkey processors.

In our interview with Marcel Veenstra, marketing and communications manager at Sealpac International BV, he talks about company’s concepts that save on environment and allow for more sustainable food packaging. Learn more about Sealpac’s solutions under its “GO sustainable” initiative.

As always, we have the latest industry news and innovations, technical and company profile articles, and an overview of some of the upcoming “MEATING” Points.

Enjoy your read!

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MULTIVAC ON CONTINUED GROWTH COURSE

As part of a press conference at FachPack, Hans-Joachim Boekstegers, Director and CEO of MULTIVAC, gave an overview of the current development of the business, as well as the packaging trends at MULTIVAC and just some of the company's many product innovations on the exhibition stand.

With a turnover of around 1.1 billion euros, the MULTIVAC Group was able to achieve in 2018 a growth in turnover of 7.7 percent over the previous year. The number of employees increased to 6,400 worldwide. "Despite many economic and political uncertainties, we are expecting a slight growth in turnover for the current business year," explained Hans-Joachim Boekstegers.

Investment In the Worldwide Production Network

The continued expansion of production capacity has a high priority in the future as well. A new Center of Excellence for slicers and automation solutions is currently being built at the company's headquarters in Wolfertschwenden, and this is due for completion in 2020. Its floor space of approx. 17,000 square metres will also create 180 high-quality office workstations, as well as conference and function rooms, which will be capable of being used very flexibly. As regards the MULTIVAC subsidiary TVI, production and administration facilities will be concentrated on a greenfield site of around 9,000 square metres at the Bruckmühl site. A new Center of Excellence for meat portioning machines is also currently being built there, and this will similarly be put into operation in 2020. The highlight



of this is an Application Center, which is specifically designed for the needs of customers. MULTIVAC is also currently planning to manufacture packaging machines and peripheral components in Taicang (China). In addition to manufacturing, the facility will also have development and design departments. The start of production is planned for the end of 2019.

From Machine Manufacturer to Supplier of Complete Solutions

With the takeover of the FRITSCH Group in August 2019, MULTIVAC is complementing its range of solutions, so that in future it will also be able to offer complete production lines from one source to the bakery industry as well. FRITSCH is a leading manufacturer of bakery equipment with its headquarters in the town of Markt Einersheim in Lower Franconia. The product range consists of high-performance equipment and groundbreaking technology for dough forming and processing - from tabletop units to industrial-scale systems. "This acquisition is another important step in expanding our range of integrated solutions for processing and packaging food products," explained Hans-Joachim

Boekstegers. "It is our aspiration to always be able to offer our customers the most efficient total solution."

MULTIVAC's Sustainability Concept

"When it comes to sustainable packaging solutions, we are the partner of choice," said Hans-Joachim Boekstegers. "We are raising the awareness of sustainable packaging concepts among our customers worldwide. We are now multiplying our sustainable concepts worldwide, even in those regions, where we have not yet seen an active demand for these solutions." The MULTIVAC product portfolio includes a wide range of sustainable packaging concepts, which make a significant contribution to reducing the packaging material used to produce packs. Other concepts are based on the use of renewable raw materials or fully recyclable films such as for example mono plastics, or alternatively paper fibre-based packaging materials.

X-line Machine Generation

Digitalisation is a fundamental component for MULTIVAC in the development of new products, and it is therefore systematically

incorporated into all packaging solutions. "Now that our RX 4.0 thermoforming packaging machine has set a new benchmark in the market, we have expanded our range in the X-line machine generation with the addition of another future-proofed model," explained Hans-Joachim Boekstegers. "The features of the new TX 710 traysealer are a robust machine concept and an intelligent control system. These ensure that the maximum output, reliability and flexibility are achieved." At FachPack the TX 710 was given the "German Packaging Award" in the packaging machine sector by the German Packaging Institute (Deutsches Verpackungsinstitut e.V.).

New Generation of Cross Web Labellers

A new generation of cross web labellers is also being presented by MULTIVAC at the trade fair. In addition to improved performance

and operating reliability, one of the features of the new models compared to the previous labelling solutions are their lower life cycle costs. The use of state-of-the-art communication standards such as IO-link and EtherCAT ensures they are equipped for the future. This enables additional sensor systems for example to be used, such as those for labelling inspection or predictive maintenance.

Full Wrap Labelling Offers a Wide Range of Design Options

The trade fair highlights also include a labelling solution for the D labelling of packs, which is marketed under the name "Full wrap labelling". As with a banderole or sleeve, the label is completely wrapped around the pack, and this offers many possibilities for different types of pack design, as well as increasing the attractiveness of the packs at the point of sale.

Management Change at MULTIVAC

After more than 18 years as CEO of the MULTIVAC Group, Hans-Joachim Boekstegers will hand over the business on 1 January 2020 to his director colleagues, Christian Traumann and Guido Spix, and bow out of the company. Hans-Joachim Boekstegers joined the MULTIVAC Group as CEO in April 2001 and has since played a determining role in driving forward the successful development of the company. He was responsible in particular for the systematic expansion of the product portfolio and MULTIVAC's sales and service network. "I would like to give my heartfelt thanks to all representatives of the media for their great interest in MULTIVAC and their professional and comprehensive reporting," said Hans-Joachim Boekstegers in summary.

www.multivac.com

FRONTMATEC APPOINTS NEW CEO



Jens Kristensen - CEO Frontmategroup

Frontmategroup is a market leader worldwide in red meat processing systems with superior technology, good technical solutions, focus on customers and dedicated employees. The company has grown significantly the last years, both organically and through the acquisition of more than 9 companies. Annual sales today is in excess of EUR 240 million

with more than 1200 employees. In order to manage the increased complexity and professionalize the expanding operations, it has been decided to strengthen the Frontmategroup leadership team with a person who has a strong operations background and who has successfully managed businesses globally.

Jens Kristensen has been appointed CEO for the Frontmategroup. In addition, Jens will assume the responsibility of the COO position. Jens' most recent job was CEO of Jupiter Bach, a global supplier to the wind turbine industry. Prior to that he has held senior operating positions with GN Resound, a leader within the field of hearing aids.

Arne Vraalsen, Chairman of Frontmategroup comments: "The solution of appointing a CEO with strong operations skills has been proposed by previous CEO, Henrik Andersen himself. Henrik will continue in his role as CCO (Chief Commercial Officer), where he has done a fantastic job in terms of creating growth, building markets and securing technology. I am very thankful that Henrik will now put all his energy behind developing an even stronger customer offering and accelerating growth further in our existing and new markets. I believe that both our customers and Frontmategroup will benefit greatly from this."

www.frontmategroup.com

JOOST WEEL APPOINTED AS MANAGING DIRECTOR MEYN FOOD PROCESSING TECHNOLOGY

CTB, Inc., has appointed Joost Weel as the new Managing Director of Meyn Food Processing Technology. In his new role Joost will

lead the company with the focus on customers and innovation to continue the company's worldwide success.

Joost Weel has been with the company for 9 years and joined Meyn in 2011 as a Group Controller to be promoted in 2015 to CFO. Joost holds a Master of science from the Vrije University Amsterdam with a major in Accounting and has a family with three children.



Meyn has always been the global market leader in poultry processing with iconic products like the Apollo and Maestro eviscerators, and Rapid breast deboning equipment. With this appointment the success continues.

www.meyn.com

BETTCHER SET TO EXPAND: PERSONNEL CHANGES AT COMPANY'S EUROPEAN HEAD OFFICE IN DIERIKON



office in Dierikon, Switzerland, is undergoing significant personnel changes.

New Sales Management for Germany

With Markus Jentner, a proven expert will take on the role of International Sales Manager for the German market from 1 September 2019. He is a trained butcher, chef and meat technician with extensive know-how in the national and international meat industry. He has been with the company since 2016 and was previously Senior Clients Advisor.

International Sales Manager for South-East Asia

As International Sales Manager for South-East Asia, Nicolas

The Bettcher success story continues. After celebrating its 75th anniversary in August, Bettcher Industries, the world's leading supplier of innovative cutting and trimming tools for

the meat processing industry, is set to expand. Headquartered in Birmingham, Ohio / USA and specialised in precision engineering, Bettcher's flourishing European business with its head

Bernet will add this region to his portfolio of responsibilities. After working as a chef and then sales representative in the beverage industry, he joined Bettcher in 2016 as sales representative for the Austrian and Swiss markets, for which he will continue to be responsible.

Director of Operations at European Head Office

In her new role as Director of Operations, Melanie Gasser has been managing operations at Bettcher GmbH since September 1, 2019. After holding the position of Customer Support from 2013 as well as Subsidiary Financial Manager, she has acquired in-depth knowledge of the industry. Her extensive experience will be invaluable in her new field of activity.

International Sales Manager Mike Filter to Retire

After many successful years at Bettcher, International Sales Manager, Mike Filter, is set to retire. He joined Bettcher as European Sales Manager in 1991 and was most recently in charge of all international business. "With Mike Filter, an accomplished industry expert leaves our company. For almost three decades he contributed significantly to Bettcher's success with great conviction and commitment. We thank him warmly for his longstanding and close loyalty. And we are pleased to continue Bettcher's success story with an extended team of experienced staff members in new positions," explains Gregor Thomalla, Managing Director of Bettcher GmbH.

www.bettcher.com



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Online auction machinery for the food industry
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in cooperation with E-Auctions in Mitchelstown, Co. Cork. (IE)
Viewing day: 12th of November | Closing auction: 13th of November



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www.Industrial-Auctions.com

PROSEAL GT4s WINS POLAGRA TECH 2019 GOLD MEDAL



GT4s Tray Sealing Machine

Proseal has won a prestigious MTP Gold Medal Award for its fully automatic, in-line GT4s tray sealing system.

The Miedzynarodowe Targi Pozanskie Gold Medals are one of the most recognisable awards in the Polish market and are awarded by a jury of experts to innovative products that demonstrate superior technology and manufacturing excellence.

The award follows the recent establishment by Proseal of a dedicated operation in Poland to provide comprehensive localised support and service for the rapidly expanding Polish market. Proseal Poland, based in Poznań, is the company's fourth Global Facility, led by long standing Proseal UK employee, Tomasz Jankowski. Tomasz has worked for Proseal for nine years in the UK and brings with him a wealth of experience and knowledge of the tray sealing sector.

The Gold Medal winners were announced ahead of the Polagra Tech exhibition, held in October 2019 in Poznan, Poland. Proseal was one of only seven Gold Medal winners, selected from around 500 innovative product entries.

"We would like to congratulate Proseal on winning this prestigious award for the GT4s tray sealing system," said Professor Henryk Jelen, Professor at Poznan, University of Life Sciences and Chair of the Polagra Tech 2019 Competition Jury. "The Gold Medals have been awarded to products which met the judge's stringent criteria and demonstrated the highest class technology. Winning this award is a confirmation of both product quality and excellence."

The Proseal GT4s combines compact design with high speed production, sealing trays at speeds of up to 140 atmospheric packs per minute with a seven-implosion tool. A rapid tool change capacity minimises downtime, complementing the flexibility offered by the machines



Proseal Team Win Polagra Tech Gold Award 2019

ability to perform Atmospheric, Gas Flush and Hermetic Shrink seals.

Among the GT4s's many advanced features, ProMotion technology improves speeds by up to 30% using following motion and intelligent buffering technology to enable trays to feed continuously into the sealer without stopping. Eseal® ensures excellent seal reliability with an increased seal force of 200% while achieving a 92% reduction in energy usage to deliver valuable cost savings and sustainability benefits.

As well as its speed and efficiency, the GT4s has been designed for reliable and consistent operation in high-care hygienic food environments. Its rugged food-industry approved hygienic construction provides easy cleaning, with full washdown protection. The tray sealer is ideal for a variety of applications, including fresh fruit, meat, poultry and ready meals.

"We are thrilled to receive this award," comments Tomasz Jankowski. "Proseal has always been at the forefront of innovation in tray sealing developments and winning the MTP Gold Medal is testament to this."



Polagra Tech Gold Award 2019

www.proseal.com

RENDERING ASSOCIATION CHANGES NAME/ACRONYM, ADDS NEW SUSTAINABILITY FOCUS

“NRA Is Now Nara”

The National Renderers Association (NRA), the professional organization that represents the North American rendering industry, has changed its name to the North American Renderers Association (NARA), Unveiled a New Logo And Introduced A New, Sustainability-Focused Tagline.

Rendering and Sustainability

Rendering is a highly sustainable method of preventing and reducing food waste that has been practiced for centuries yet is not widely understood nor is its highly valuable contribution to global sustainability discussed or generally recognized.

Rendering takes leftover, undesired, or uneaten livestock and poultry meat (and used cooking oil) and safely and hygienically processes it to create new products so that nothing is wasted.

In short: Renderers are the “Original Recyclers.”

Roughly 50% of an animal is considered inedible by people. Rendering reclaims this otherwise wasted food (protein, bone, fat), as well as used cooking oil from restaurants, and transforms it into ingredients for countless new goods, such as nutritious animal food (Including pet food), biofuel, and household and industrial products.

Renderers recycle this material into 19 billion pounds of fat, oil,

and protein products a year. As a result, huge volumes of meat leftovers and used cooking oil are kept out of landfills, resulting in a net reduction of carbon emissions. Rendering avoids at least 90% of potential greenhouse gas emissions (GHGs) compared with industrial composting and sequesters five times the amount of GHGs as it emits. In fact, rendering’s annual GHG reduction is equivalent to removing over 12 million cars from the road.

“Most people don’t even understand what rendering is, let alone include it in the sustainability conversation,” said Ridley Bestwick, Chairman of the North American Renderers Association and Director of Finance & Chief Financial Officer of West Coast Reduction Ltd. “In fact, rendering is a huge player in the reduction of food waste and in environmental, social, and economic sustainability.”

By reclaiming and converting these animal leftovers and used cooking oil into new products, rendering helps customers and consumers to be more sustainable. In addition to lowering GHGs, rendering generates clean water, reduces animal agriculture’s environmental footprint, and provides thousands of full-time jobs. Rendering jobs are here to stay since they cannot be exported due to the raw and perishable nature of the material our industry reclaims. This supports families and local communities from coast to coast in America and Canada, many in rural areas.

New Name and Tagline

The association was formed in 1933 and has carried its original name and acronym, the National Renderers Association (NRA), for over 85 years.

The change to North American Renderers Association (NARA) differentiates the association with a name and acronym unique to the agriculture and sustainability industries. It ensures more accurate results on internet search engines and also clearly includes our Canadian rendering members, as the word National connotes an association whose members are only from the United States.

“This was a highly positive change for our association since a more unique name and acronym make it easier for those looking for rendering information to find it,” explained Bestwick. “Educating about rendering’s massive contribution to global sustainability is one of NARA’s most important goals. We want to educate people and get rendering into the sustainability conversation so both current and incoming generations understand its importance. We believe this name change will help us to do that.”

The association’s new tagline “Reclaiming Resources, Sustainably” was chosen to focus on rendering’s important and fundamental contributions to sustainability, its prevention and reduction of food waste, and that in rendering, nothing is wasted.

www.nationalrenderers.org

GLOBALG.A.P. LIVESTOCK CERTIFICATION

The GLOBALG.A.P. Integrated Farm Assurance (IFA) Standard consists of General Rules and Control Points and Compliance Criteria (CPCC.)

The GLOBALG.A.P. IFA CPCC are Modular-based Consisting of:

* THE ALL FARM BASE MODULE: This is the foundation of all sub-scopes and defines all the requirements that all producers must first comply with to gain certification.

* THE SCOPE MODULE: This defines clear criteria based on the different food production sectors. GLOBALG.A.P. covers 3 scopes: Crops, Livestock and Aquaculture.

* THE SUB-SCOPE MODULE: These CPCC cover all the requirements for a particular product or different aspect of the food production and supply chain.

The scopes (e.g. livestock) are automatically coupled to the sub-scopes that a producer or producer group applies for. For example, a poultry producer must comply with the All Farm Base, the Livestock scope module, and the Poultry CPCC to receive a GLOBALG.A.P. Poultry Standard Certificate.



Livestock producers are also required to source their compound feed from reliable suppliers. The GLOBALG.A.P. Compound Feed Manufacturing Standard helps livestock producers find GLOBALG.A.P. certified compound feed manufacturers. Learn more at www.globalgap.org/cfm.

The Globalg.a.p. Livestock Transport Standard

Animal welfare during livestock transport from farm to farm and from farm to slaughter is crucial. Certified livestock producers are required to transport their farm animals using certified haulers.

The GLOBALG.A.P. Livestock Transport Standard sets the framework for transporting

companies to get certified, and assists livestock producers in finding GLOBALG.A.P. certified transporters. The Standard covers the transport of all types of livestock and applies to all operators and vehicles transporting animals over distances of more than 65 km and for third-party transport covering distances less than 65 km.

GLOBALG.A.P. certified farmers who transport livestock over distances less than 65 km must comply with the requirements defined in the IFA Livestock Base Section 9 (Livestock Dispatch). The Livestock Transport Standard applies to road vehicle transports. It excludes transports via airplane and/or ship except for roll-on/roll-off ferries.

www.globalgap.org

CORBION, ANNOUNCED AN AMBITIOUS CARBON FOOTPRINT REDUCTION TARGET

Corbion will reduce CO2 emissions related to energy, key raw materials, and transport by 33% per ton of product by 2030 from a 2016 base year. The proposed target has received approval by the

Science Based Targets initiative (SBTi) following a thorough validation process.

“As a sustainable ingredients company, Corbion is already

deeply involved in developing sustainable solutions that help our customers shrink their carbon footprint by reducing food waste and their use of fossil-based chemicals,” said Corbion CEO

Olivier Rigaud. "But we must do more. We must all become leaders in climate action, and do all we can to inspire each other to make a sustainable difference."

To quantify a bold but realistic target, Corbion worked closely with SBTi, a collaboration between CDP (formerly the Carbon Disclosure Project), the United Nations Global Compact, World Resources Institute, and the World Wide Fund for Nature (WWF). SBTi supports companies in setting carbon footprint reduction targets in line with the Paris agreement, specifying how much and how quickly they need to reduce their greenhouse gas emissions and giving them a clearly defined pathway to future-proof growth. More than

670 companies around the world have joined the initiative's call-to-action so far. Corbion is the 276th company to receive approval of its target from the SBTi.

To meet its pledge, Corbion assembled a cross-functional team, including experts in technology transfer, engineering, procurement, global R&D and sustainability, to develop a roadmap outlining key actions, some of which are already in motion:

- * Transitioning to 100% renewable electricity by 2030
- * Implementing energy-saving projects at manufacturing sites
- * Establishing an R&D program to identify opportunities for heat

integration, electrification, and recycling

- * Selecting the most energy-efficient technology available when equipment is replaced
- * Partnering with key raw material suppliers to jointly reduce CO2 emissions

"The world's future depends on the commitments we make today and on the ways we honor them," Mr. Rigaud said. "At Corbion, we focus our business on some of the biggest challenges confronting our planet by contributing to a circular, low-carbon economy. We know that to overcome those challenges, we must commit ourselves to achievable stretch goals."

www.corbion.com

LEADING THE WAY IN INNOVATIVE TURKEY PROCESSING

Marel Poultry offers the most advanced level of automation for the highest turkey processing capacities currently available.

- Consistently high yield of superior quality end products
- Optimized productivity and efficiency
- Full traceability and production control
- Advanced technologies, including unique three-point suspension system

Contact us to find out more:
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info.poultry@marel.com | marel.com/turkey



TRANSFORMING
FOOD PROCESSING



TOMRA FOOD FOR A MORE EFFICIENT, SUSTAINABLE PRODUCTION

Consistent high quality, reliable ejection of defective product, and less waste of valuable food - this is what TOMRA Food stands for. With innovative analytic systems and pioneering sorting systems, the company, which belongs to the Norwegian TOMRA Group headquartered in Norway, strengthens its commitment to global sustainability.

Inline Control and Sorting for a Variety of Sausage Types

Whether salami or sausage, cooked or boiled, it all depends on the fat content. For all these sausage varieties, accurate determination of fat content is important for the ripening process. If the fat content is known, the ripening time can

be determined exactly - with a consistent quality as a result. With the TOMRA QVision, a continuous, sensor-based analysis of the fat, water and collagen content of any type of meat is guaranteed. The manual or fully automated easy-to-integrate system reliably and continuously monitors products of various shapes and sizes.

An Investment that Pays Off

The TOMRA 5B notes a milestone when it comes to quality and safety for the end consumer. Integrated directly after peeling it ensures that the residual casing is reduced to a minimum. This avoids complaints and possible recalls at retail. At the same time, visible foreign bodies, discoloration or other defective products are efficiently and safely removed.

www.tomra.com



TOMRA QVision: Sensor-based in-line fat, water and collagen analysis to provide a consistent product quality.



TOMRA 5B: For the highest standards in food safety and quality.

FROM PORTIONING TO PACKAGING - ALL FROM A SINGLE SOURCE BY VEMAG

Engineering Expert from Verden Presented its Portfolio in Nürnberg, Germany

Weight - accurate portioning, consistent forming, precise loading of product into packaging of all types, all of the above from a single source and in the same production process - VEMAG established itself internationally as a leading company for flexible and customized solutions.



Automation, Flexibility, Portioning, Filling and Loading

VEMAG visitors discovered the above mentioned processes at Fachpack. Hall 1, Booth 349 offered room for the fair attendants to experience the widest range of product solutions



and maximum weight precision as well as application flexibility on the use of different packaging formats and quick retooling play a key role for the success. VEMAG is the most reliable partner for flexible solutions, from portioning to loading and transferring into packaging, all from a single source.

Live Demonstrations

VEMAG presented in exciting live-demonstrations in Nürnberg its individual solutions, such as, for example, the tray denester FD316, to separate and load trays to optimize the production process; the new Robot 500, combined with the can filling system FKF2, to fill glasses and cans precisely; as well as a multi-lane system to dispense and fill liquid and paste-like masses into thermoformers.

www.vemag.de

for portioning and loading into package.

Minced meat, burger patties, sausages, convenience products

or petfood - the application scope sets no limits. The fully automatized loading takes place into cups, glasses, trays or cans, depending on customer's demand. Product safety

GLOBALG.A.P. AT A GLANCE

THE MOST WIDELY ACCEPTED GOOD AGRICULTURAL PRACTICES CERTIFICATION WORLDWIDE



430+ voluntary members form the **GLOBALG.A.P. Community**



GLOBALG.A.P. governed by an **elected Board**



1,000+ international experts active in Technical Committees, National Technical Working Groups and Focus Groups



207,000+ certified producers in **130+ countries**



3 main products with **40+ standards** and **programs**



600+ products available for certification



Capacity building for thousands of people on **5 continents** and in **10 languages**



An extensive **worldwide network** of **consultants** to help producers with their certification process



A harmonization program to **benchmark schemes** and **checklists** around the world

A pioneering **integrity system** with independent assessments to **monitor the performance** of our certification bodies



2,000+ inspectors and **auditors** working for **145+ approved certification bodies**



A secure **online certification database** to check producers and validate certificates



A **consumer label** for seafood based on the GLOBALG.A.P. Aquaculture Standard



An online **consumer portal** for transparent farm verification and information



A **consumer label** for plants based on the GLOBALG.A.P. Flowers & Ornamentals Standard

HYDROSOL PRESENTS “FREE FROM” CONCEPTS FOR A DIVERSE RANGE OF FOODS

Hydrosol, a leading international supplier of stabilising and texturing systems, is focusing on “free from” solutions at this year’s Food Ingredients Europe (booth 6D90). These include new concepts for melted cheese preparations and for plant-based alternatives to dairy, deli and meat products. Declaration-friendly preservatives for meat products is another category the company is addressing.

Processed Cheese Preparations Without Added Phosphates

Whether spreadable or in slices, processed cheese is an established product worldwide. But the phosphates in the melting salts are under fire for causing health problems, first and foremost osteoporosis, but also a heightened risk of heart attack and stroke in certain groups. Hydrosol has therefore developed formulations that don’t need added phosphates. They are ideal for stabilising the cheese-melt preparations that are so popular with families. These “free from” products offer characteristics similar to standard products - they can be offered as spreadable cheese, in triangular packages or eaten as slices on burgers or toast.

Clean Label Solutions for Plant-Based Products

Plant-based alternatives to dairy and meat products are especially strong growth drivers in the food market. But vegetarian at any price is no longer the sole priority. More and more consumers also want to see a short ingredients list with the fewest possible



Hydrosol Veggi Burger

E-numbers. At FI Europe Hydrosol is presenting new solutions for plant-based products. Inspirations in the dairy and deli categories offer vegan alternatives to sour cream, dessert, mayonnaise and a burger condiment. All four products are all-vegetable and clean label, and exemplify the comprehensive expertise that Hydrosol has built up in the past years in the area of plant proteins. Based on this deep knowledge, Hydrosol has been able in many other systems to replace E-numbered additives with declaration-friendly ingredients.

Hydrosol also helps keep E-numbers out of vegetarian alternatives to meat and sausage. The HydroTOP VEGAN SF series is a good example of this. This allergen- and soy-free system based on potato and pea protein lets customers make a wide range of products, from cold cuts and salami to bacon. Hydrosol has improved the system so that per application there is only one E-number. Products for eating hot only have at most two declarable additives.

Vegan burger patties are another category Hydrosol works in, with the all-in compound HydroTOP VEGAN Patty PP. Based on fava bean and pea protein, it is free of soy, wheat and other allergens. With its sunflower-based texturate, it enables users to make vegan burger patties with just one E-number. The resulting patties are amazingly similar to meat products in flavour, texture and mouthfeel. Fair visitors can taste them for themselves at the ProVeg International cooking show on Tuesday, 3 December at 12:00.

Declaration-Friendly Preservation of Meat Products

Declarable preservatives are often used as preservatives for meat products. A new preservative in the Hydrolon range is based on dry vinegar as a functional ingredient, making it declaration-friendlier than the acetate and lactate often used. The raw materials in the mix are perfectly balanced to prevent bacterial growth and keep the colour of meat products stable.

There is no negative sensory effect on the end product, making this preservative ideal as a brine and tumbler additive and as a cutter aid.

**Free From Tarte Flambée:
Focus Topic In Culinary
Staging**

At the shared booth 6D90 of the Stern-Wywiol Gruppe fair visitors can experience "free from" culinarily. Together with sister company Deutsche Back the company is presenting a jointly developed product - FreeFromFlammkuchen (free from tarte flambée). It consists of a gluten tarte flambée crust coated with an almond-based sour cream and a vegetable alternative to bacon. With FreeFromFlammkuchen Hydrosol



is once again demonstrating its leading role as an innovation driver in the stabilising and texturing systems market. This culinary staging is an example

of the close collaboration among the twelve sister companies within the Stern-Wywiol Gruppe, from which customers also benefit. www.hydrosol.de

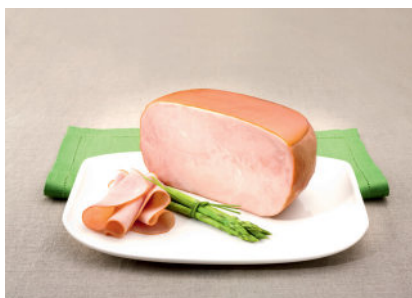
**SHELF LIFE EXTENDERS AND PRESERVATIVES
ENSURE FRESHNESS AND PRODUCT SAFETY**

FRUTAROM Savory Solutions offers everything for the production of high-quality meat products and sausages, convenience and fish products, from a single provider. Operating under the brands Gewürzmüller, WIBERG and Gewürzmühle Nesse, the company is a reliable supplier of a wide range of solutions, that ensure the best taste and function for your food. The shelf life extenders and preservatives are part of the broad assortment of active ingredients under the umbrella brand FRUTAROM Savory Solutions.

New: GERMEX V

**Shelf Life Extension
Without E Numbers**

The demand for clean label products is rising. Consumers today



are well aware of the quality of their food by reading ingredient lists or looking for claims like "natural" or "without E numbers". However, they are not willing to cut back on taste, texture or shelf life. FRUTAROM Savory Solutions offers four clean label solutions in powder form, all within the GERMEX range. GERMEX Flavor and GERMEX Natural are flavoring-based products, GERMEX Fresh is made of spice extracts only. The new GERMEX V



increases the shelf life based on dried, buffered vinegar as it is highly effective against bacteria, molds and yeasts. It can easily be used in many applications like cooked sausage, cooked ham and meat preparations. It is water soluble and has almost no effect on the final pH-value. The company recommends the labelling "mildly buffered spirit vinegar".

www.frutarom.eu

FILLING AND PORTIONING WITH OPTIMUM HYGIENE CONDITIONS

Innovative Hygiene Concept in the Vf 800 Vacuum Filler

The comprehensive innovative hygiene concept of the Handtmann VF 800 vacuum filling machines ensures optimum hygiene conditions for filling and portioning easily perishable foodstuff of animal origin, such as meat products. The VF 800 vacuum filler combines hygiene options from the categories of product and process hygiene as well as process monitoring.

The hygienic design of the VF 800 machines provides fundamental advantages. Smooth external surfaces and angled or curved surfaces, e.g. on the machine frame, the hopper's pivot bearing and the arm lifting device, guarantee fast water drainage. Small gap widths, short seal lengths and few edges ensure that there are no dirt traps, the cleaning work needed is also reduced and a high level of hygiene is guaranteed.

Further hygiene options in the areas of products and processes as well as process monitoring have also been implemented. One example is the procedure of filling the hopper via a meat trolley with a lifting device. A patented anti-drip moulding attached to the lifting device's cage catches the draining water and is emptied outside the hopper only when



Easy to Clean



Easy to Clean

the lifting device is moved back. This prevents the filling product from becoming contaminated and product hygiene is thus reliably maintained. Moreover, during production, the hopper filling level is determined accurately by means of a protected, hygienically integrated laser filling level sensor, and it can be displayed on a signalling column as an option. A patented step, whose safety switch is triggered depending on the load and prevents manual folding down of step, further adds to this. Potential soiling caused by a contaminated step that needs to be operated manually is eliminated.

Yet another hygiene feature is the automatic interim cleaning of the hopper during product changes. The hopper is hereby cleaned by a spray head in a programme-controlled process. This option,

which can also be used for pre and final cleaning, facilitates efficient product changes and reduced idle times, coupled with a high level of hygiene. The results of pre and interim cleaning are improved further by an automatic feed system cleaning programme which enables the feed system to be cleaned with warm water. With water temperatures of up to 90 °C, hygienic cleaning results can be attained without much work on the part of the operator. The vacuum channel and vacuum tube also feature an optimised geometry with respect to cleanability and are now lit as well. Furthermore, the patented inspection opening on the pivot bearing enables the vacuum system to be cleaned while the machine is running. Cleaning and functional reliability are therefore improved with less cleaning work. An additional special feature of the vacuum system is aimed at the bioburden of the ambient air. With the VF 800, vacuum control is achieved without adding external or ambient air. Possible microbial cross-contamination of the product due to ambient air which contains microbes can therefore be ruled out.



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FULL FOCUS ON SUSTAINABILITY: SEALPAC PRESENTS INNOVATIVE PACKAGING CONCEPTS



Marketing &
Communications Manager
Sealpac International BV

For some time now, the headlines of the food industry have been dominated by the extensive EU plastics regulation, which is calling for considerably less plastic and significantly more recycling. Packaging specialist SEALPAC took up this topic in a variety of ways. Well-developed concepts that save on the environment and allow for more sustainable packaging of food items have been met with great interest by food manufacturers recently. We talked to Marcel Veenstra, Marketing & Communications Manager at SEALPAC, about the company's solutions under its "GO sustainable!" initiative.

Q. Sustainability has been the central theme of SEALPAC's presentation around the world. In which way did you deal with this?

Achieving better climate protection through more sustainable use of resources is a global challenge. The packaging industry clearly has a holistic responsibility and must consider the many interlinked aspects in the development of more sustainable, yet at the same time functional packaging. Our company, in close collaboration with leading manufacturers of packaging materials, already recognized in the year 2003 that by modifying established packaging we could deliver even greater value. At that time, we introduced the rib structure to trays for modified atmosphere packaging (MAP), thus improving the flow of the

protective gas inside the pack and increasing the stability of the tray.

In a similar way, we approached the issue of sustainability. For the most common tray size in the meat segment in Western Europe, which is 190 x 144 x 50 mm, together with our partners on the materials side, we have been able to significantly reduce the amount of plastic whilst maintaining perfect machinability and processing stability. In 2003, such trays used to weigh around 18 grams, where in the course of the previous years we were able to reduce the weight of the MAP tray to less than 10 grams.

Our Research & Development department is continuously looking for ways to further reduce the amount of plastics used for pre-packaged food items. At the same time, recycling must be further promoted. This is where we can support by allowing the consumer to separate the packaging into its individual components. The production process of the tray must ensure this functionality, but we also need to assist the consumer in this matter by means of communication. If consumers experience the benefits themselves, for example by reducing the amount of plastic waste at home, they will be more likely to change their behaviour in the long term. This was also shown by a consumer survey in the German Lebensmittelzeitung (33/2018). According to this survey, 69

percent of the consumers would be willing to dismantle the packaging in its individual components and dispose of them separately.

Q. Does this mean that we will be free of plastic in the future?

No, because that would have a negative impact on shelf life and cause even more food waste than we already see today, which on its own also hurts the environment badly. Based on current technologies, without plastic or plastic composites no safe or technologically sustainable packaging can be realized. The question therefore is: how can plastics be used to achieve more sustainable solutions?

Certain products, such as fresh or processed meat, require strong barriers against moisture and oxygen, in order to maintain the quality and shelf life of the product. The only solution there can be to reduce the amount of plastics as much as possible and, if necessary, replace it with alternative carrier materials, such as cardboard. We do this by increasing the proportion of fibre in some of our packaging systems. Take, for example, our FlatSkin® system, which we have now been promoting successfully for two years in the meat and seafood segment.

Q. What is special about FlatSkin®?

FlatSkin®, equal to vacuum skin packaging of products on



SEALPAC's FlatSkin® System

Sustainable vacuum skin packaging with less plastic and more communication.

a flat cardboard carrier with a thin plastic liner, results in more sustainability as it reduces the amount of packaging materials used and improves recycling. In the meantime, it offers an eye-catching presentation at retail. Especially important: the pack provides sufficient space for storytelling, including the sustainability message and the handling of the two materials (cardboard and plastic) for optimal waste disposal. With FlatSkin®, we have very quickly found acceptance among manufacturers, retailers and consumers, as it impresses with its process reliability and optical presentation. At the same time, it allows for better communication with consumers.

Q. By Introducing eTray®, You are now also bringing this concept to modified atmosphere packaging?

Put simply, you could mention it that way. One of the demands from the market was to create a solution comparable with FlatSkin® for products packaged under modified atmosphere. At the IFFA exhibition in May 2019, we therefore introduced a new tray that follows the basic principles of FlatSkin®: less plastic, more



SEALPAC's eTray® System
Attractively packaged red meat products with optimal shelf life.

communication. This new system is called eTray®, in which the "e" stands for ecological. The cardboard base takes up 55% of the tray, the plastic inlay accounts for just 36% and the top film is the remaining 9% of the tray. The feedback from the visitors to our stand at IFFA 2019 has been excellent, both from the side of manufacturers and retailers.

Q. Can you describe the eTray® concept?

eTray® consists of a high-quality cardboard base, which can be fully printed on the inside and outside, hence allowing for attractive designs and offering plenty of space for communication. It has a plastic inner layer that purely provides the sealing and barrier function. The trays are prefabricated by means of a special thermoforming process. Owing to their highly stable, uninterrupted sealing edge, each tray is reliably

sealed under MAP to ensure the safest packaging process. The innovative eTray® is suitable for denesting and allows for smooth transport across the packaging line. Compared to common trays in the market, up to 40% less plastic will be used, depending on shape and size.

After use, the same process applies as to FlatSkin®: the packaging is easily divided into its cardboard and plastic components, hence allowing for separate disposal and recycling. The eTray® system offers fresh food, such as red meat, seafood, poultry and ready meals, optimal protection whilst ensuring an eye-catching appearance at retail. And probably the most important benefit: without any major investment in new equipment. eTray® can be run on almost any existing machine or tooling.

Q. In the marketplace today, we see more and more hybrid packs



SEALPAC's eTray® System
Sustainable, yet without any major investments.

SEALPAC®

Forming Innovations

that contain both cardboard and plastic. Where is this heading?

As part of our "GO sustainable!" initiative, we conducted intensive market research and had many discussions with customers in advance. This convinced us that any new packaging processes in the dynamic fresh food segment must be simple and easy to implement. By teaming up with innovative packaging material suppliers, we were already able to introduce eTray®, a state-of-the-art and easy-to-use solution for modified atmosphere packaging,

but also installed several other applications for paper-based trays, such as Halopack® and Jospak®. Due to our unique Rapid Air Forming technology, we are even able to offer paper-based modified atmosphere packaging on our standard SEALPAC thermoformers. As we do not believe that food manufacturers themselves will be able to develop entirely new packaging systems in the future, we will continue to invest in our R&D activities in assisting the packaging industry to become more resource saving. ●



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INTRODUCING AN INNOVATOR IN FOOD TRAY TECHNOLOGY



Global technology equipment supplier to the food processing industry, JBT is introducing its

newest acquisition, Proseal, who designs and manufactures a varied range of high-quality tray sealing machinery, with throughputs from 6 to 240 packs per minute.

Proseal's high-speed production capacity is complimented by a number of benefits including; user-friendly intuitive design, cutting-edge control system technology, fully hygienic washdown protection, and eco-friendly electric seal actuation, saving up to 92% of energy. Proseal's innovative approach to tray sealing enables customers to meet the ever-changing demands of the food manufacturing sector in all food categories.

Show-goers can take part of live demonstrations of Proseal's high efficiency tray sealing machine; GTR. The GTR machine is a small-footprint high-throughput rotary tray sealer, known as a workhorse of the ready meal industry.

Furthermore, visitors to the JBT booth will meet up with solution experts across the entire food processing continuum. Presenting SMART and innovative solutions adding value through yield, flexibility, automation, high-hygiene, food safety, clean label and consistent end-product quality. JBT is setting the standard for the food industries growing expectations, needs and demands.

www.jbtc.com/foodtech

TRAYS HAVE CLEAR SUSTAINABILITY BENEFITS FOR QUORN



move to eliminate more than 297 tonnes of black plastic packaging from its supply chain.

Bebo is producing a range of white and opaque recyclable PP trays for the Quorn range, including some of its bestselling products such as chilled Quorn Mince and Pieces.

In addition to the change in material, Bebo has also worked on the further lightweighting of the trays. This has delivered valuable additional material savings while still ensuring that the trays retain the durability, reliability and functionality that provide effective product protection throughout the supply chain and ease of use for the consumer at home.

Trays from Bebo, a Berry Global company, are playing a key role in

supporting Quorn Foods' widely-publicised and highly-successful

The new trays were developed using the Design Circular Grading Tool to assess their sustainability credentials. The Tool assesses packaging through a rating system based on package design, material, footprint, among other attributes, to provide a grade A through F in terms of sustainability. As a result of the various changes, the trays now have a B Rating for their environmental profile compared

to the F of the previous black plastic versions.

Quorn has reported that the new packaging has been extremely well received by its customers. "Quorn is at the forefront of diversifying the modern diet, and as well as being health-conscious, our customers are equally concerned about the wellbeing of the environment and our planet," comments a Quorn spokesperson.

"We are delighted how these new trays have made such a positive change towards the increased sustainability of our products."

Quorn Foods is a global market leader in healthy, sustainable protein. Based in Stokesley, North Yorkshire, UK the company offers a wide range of great-tasting products to appeal to the rapidly-expanding group of people wanting to reduce their meat consumption.

www.rpc-bebo.com



Sustainability without compromising performance.

As a leading global food packaging manufacturer, Krehalon's core purpose is to preserve the quality of fresh foods whilst maximising their shelf life and appeal.

Our ultimate sustainability goal is to provide products featuring exceptional environmental efficiency with little or no compromise on performance.

Our patented ML40 technology is non-PVDC & completely chlorine-free.

Thinner but stronger

◀ The innovative construction of our ML40 materials allows us to reduce material thickness without compromising barrier properties and strength. ML40 materials are, on average, 23% thinner than competitor corresponding offerings.

Shelf life extension

◀ Our specially developed sealant materials (SSL™ and SSL™ Plus) help delay microbial spoilage and extend shelf life of fresh meats to prevent food waste.



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NO MORE FLAPPING ABOUT POULTRY PACKING: DELTA 3000 HAS ALL FORMATS COVERED

Pressure to reduce plastic is prompting poultry packers and processors in some markets to move to 'no tray' or cardboard trays when wrapping whole birds. ILPAK's Delta 3000 flow wrapping platform gives poultry operations the flexibility to run these plastic-saving solutions alongside conventional tray and film combos and innovative roast-in-bag formats on the same machine.



The Delta 3000 is extremely flexible, poultry packers can use one machine to pack whole birds or parts with or without a supporting tray

The Delta 3000 is the perfect choice for poultry packers owing to its inherent flexibility - companies can use one machine to pack whole birds or parts (thighs, drumsticks, breasts etc), with or without a supporting tray, and with or without gas flushing. Trays can be cardboard, foil or plastic and wrapping materials can be barrier, shrink or ovenable films.

Roast-in-bag or ovenable films are an increasingly popular format in the UK, as they offer a compelling hygiene advantage - eliminating the need to handle the raw bird prior to cooking. The Delta 3000 can produce ovenable MAP flushed quattro packs.

"The chicken is wrapped, with or without a foil tray, and the machine folds and seals film on four corners for a box-like effect," says Luca Somaini, Delta Product Manager at ILPAK. "The strong

seals created by the Delta 3000 enable the bird to be cooked in the bag, keeping in the flavours and aromas and preventing juices from escaping."

Elsewhere in Europe, whole birds are predominantly packaged in a plastic tray and long shelf life film option such as gas flushed barrier films and shrink bags.

The versatile Delta 3000 can run off all of these pack formats, at speeds ranging from 60-100 ppm depending on the application.

"Historically, when it has come to building flow wrappers for the meat and poultry industries, this level of flexibility has been at the expense of hygiene. Now producers can have the best of both worlds: a machine that offers best-in-class sanitary design and absolute flexibility," says Somaini.

www.ilapak.com

SUSTAINABLE PAPER-BASED PACKAGING SOLUTION FOR FOOD TRAYS

Mondi and Rewe Group in Austria Focus on Sustainability and Better Recyclability

REWE Group, one of the biggest retailers in Austria, is packing its premium cheese products of its organic brand Ja! Natuerlich with a new patented solution from leading packaging and paper group, Mondi. The Austrian retail stores BILLA, MERKUR, ADEG and Sutterluey are offering the organic cheese slices on natural brown paper trays. In Austria, these

can be recycled as waste paper because they are made of 80% virgin fibre and only 20% plastic. The new packaging reduces plastic consumption by 70% and carbon footprint by around two-thirds compared with the previous solution.

Sustainability affects all aspects of life. More and more people are looking for environmentally-

responsible solutions and expect companies to deliver products that conserve the planet's resources. In particular, they want to know where products come from and how sustainable the packaging is. Like consumer behaviour, legislation is changing fast - the EU directive on the reduction of single-use plastic is just one example. As a global leader in packaging and paper,

Mondi is a pioneer in making packaging sustainable by design.

Georg Kasperkovitz, CEO of Consumer Packaging, explains: "As a producer of both paper and plastic-based packaging, we carefully monitor trends and select the best solution together with our customers. Mondi's view is that packaging should always be fit for purpose - paper where possible, plastic when useful. Especially in the food sector, barrier properties are essential to ensure that products are durable and remain fresh. In this context in particular, as

are also processed and coated in Austria, by Mondi Zeltweg in Styria. As a consequence, transportation can be kept to a minimum and the added value remains largely within the country's borders. After a nine-month REWE Group Press Release test phase in cooperation with dairy producer Salzburgmilch, the new packaging will now be used for cheese slices from the delicatessen in the varieties Bio Alpkonig, Bio Gouda, Bio Emmentaler, Bio Butterkase and Bio Bergkase. The new paper-based packaging solution will soon be appearing

already at over 80%³ - this is higher than any other packaging material. The EU and consumers are increasingly demanding solutions that are more readily recyclable and more sustainable. According to a 2018 survey in Austria, around 50% of consumers seek to avoid plastic packaging as much as possible.⁴ It is clear that brand manufacturers and packaging companies will face huge changes in the future.

Martina Hormer, managing director Ja! Natuerlich, says, "Consumer expectations concerning sustainability in the food industry have changed dramatically over the last couple of years. Our customers are currently taking a keen interest in packaging. Brands such as Ja! Natuerlich are expected to act in an environmentally aware manner. Against this backdrop, this topic has been extremely important to us for several years, and we have been gradually switching to more sustainable packaging alternatives since 2011. We are now delighted to have found a solution, together with Mondi, which significantly reduces the product's carbon footprint, curbs the use of plastic, and is capable of substantially enhancing recyclability."

Markus Gartner, CEO Mondi Fibre Packaging / Paper, adds, "We focus on the sustainability of all our packaging and paper products. With a broad range of sustainable product innovations, including our patented paper and barrier solution perFORMing, we are making a valuable contribution to a better world."

www.mondigroup.com



Ham



Salami

an integrated supplier, we can create tailor-made solutions and thus accomplish a major step towards a sustainable society."

Value Chain Within Austria Protects the Environment

The natural brown paper of the new cheese packaging is produced by Mondi Frantschach, Carinthia, predominantly from Austrian wood. The paper trays

in national supermarket chains in France and Poland as well.

Paper With Special Coating Reduces Plastic Use and CO2 Emissions

Switching from conventional packaging to paper-based solutions delivers multiple benefits. First, paper has the lowest carbon footprint of all packaging types,² and second, it is recyclable, with paper recycling rates across Europe

1 REWE Group

2 Packaging Digest 2017 Sustainable Packaging Study

3 Packaging Digest 2017 Sustainable Packaging Study

4 Talk Online Panel & m.core, April 2018 (<https://www.mindtake.com/de/press-release/studie-sch%C3%B6ne-verpackungen-verleiten-konsumenten-zum-kauf-von-produkten>)

NATURAL & ORGANIC FOOD PARADIGMS

By Henk Hoogenkamp

Clean labels are rapidly moving from trend to industry standard. Consumers of today have a great desire to see clean labels on food products in which artificially and mysteriously sourced additives are eliminated. The emerging young American millennial generation increasingly rejects artificial dyes, flavorings, preservatives and GMO, and demand food formulated with ingredients they recognize which are, preferably, of natural origin. Sales of many legacy or mainstream brands that make processed food with artificial ingredients and additives have suffered. In contrast, many startup entrepreneurial natural-food companies have

healthier choices to consumers as well as implement legislation to stop in-store junk food promotion (The Royal Society for Public Health, July 2019). As an example may serve, the removal of junk food from shelves at eye level to help discourage people from impulse purchases. Reducing shelf allocation for unhealthy and not-natural products -hopefully- will reduce the consumption of foods with disproportionate amounts of fat, sugar and salt, while promoting the sales of healthier choices.

Affluent consumers look for cleaner labels more than they look for foods that have less calories or fat. There is little doubt that

ingredients into food products. Food and ingredients that give the impression that they are “natural” and have not been processed too harshly are of great appeal to consumers. Undoubtedly, the big legacy food companies are in the midst of a public relations crisis.

The prevailing sentiment of the millennial consumer -born between 1984 and 2004- is that their mental picture of hyper-processed robotic-made food is not in sync with the expectations of their evolving lifestyles. These expectations provoke fears about the true composition of formulated food products. In other words, modern consumers are increasingly approaching processed foods with a skeptical eye. It should also be said that the perceived naturalness is often synonymous with premiumization, attracting customers who have the means to afford these more expensive food products.

Consumers perceive foods with any “free-from” claim to be both healthier and less processed. Although the fear of artificial dyes and preservatives lacks scientific basis, consumers have been pushing to have these eliminated from the ingredient line-up.

The large food establishments are working overtime to reformulate and are trying to get their lost market share back. It is not easy to find acceptable alternatives. For some legacy food companies, it is even frustrating that after years of technological advances



grown. It seems, the bigger the size of a multi-national food company, the less consumers trust it.

Premiumization

Governments and the food industry should do more to support supermarkets in encouraging

“free-from” foods have become a movement as more consumers continue to be affected by the purity of food, as well as the avoidance of allergens and intolerances.

It has been said that food companies turn additives and

to make packaged food cheaper, more flavorful and longer lasting, the pendulum is now swinging back. It seems a *deja-vu* of the good old times.

There is no doubt that consumers in affluent societies are placing more emphasis on what is in their food and how it is processed. Ingredient choice and clean label is an irreversible trend. Unfortunately, there is no real definition for a clean (and green) label. A clean label often is synonymous with organic or all-natural, and thus a rejection of synthetic science-driven ingredients or foods.

However, something of a conflict is arising between the demand for natural food and meat products and the sustainability of the natural food supply chain. Take for example natural fruit flavors and vanilla. Not only has the price of natural vanilla multiplied by 20 times since 2015, there are also growing tensions harvesting these critical crops, threatening to destabilize local farming and as such the economy of the producing countries.

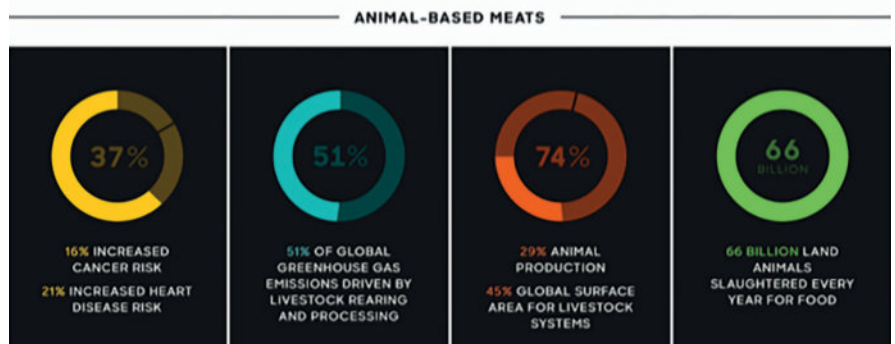
Going forward, it is likely that supply of some natural foods and ingredients will be limited supply and as such alternative solutions need to be found. Nevertheless, the bottomline is that only through the application of scientific research and implementation of the "natural" taste and aroma expectations, the food and meat industry will be able to keep prices affordable for the masses, while protecting the planet. Of course, many consumers remain somewhat skeptical about the involvement of science-based processes in the chain of food production.

The New Health Punch

Ever since shoppers have become more ingredients-savvy, legacy food companies had no other choice but to finally meet consumers' expectations and reactively pack more health

Naturalness

There is currently a massive global trend towards a healthy lifestyle that gives much more emphasis to plant formulated foods. Increasing numbers of food and beverage manufacturers have to revisit their formulas by



punch. After years of sagging market shares selling sugar-laden and chemical-rich foods, something had to be done to reverse the significant drop of sales figures.

The new health-oriented product transformations focus on giving consumers more of what they want and less of what they don't want. These reformulations are mainly driven by addressing claims of healthfulness as well as championing nutrition and "better-for-you" options delivered by no-nonsense clean label guarantees enhancing wholesome, clean and pure ingredients with absolutely no artificial colors, preservatives, flavors and sweeteners.

replacing artificial -and often chemically-sounding- additives with natural ingredients.

Unfortunately, the front pack claim does not often match the complex ingredient list on the back, hence not aligned with the consumers' perception of the term "natural".

People across the globe have a habit of defining the word "nutritious" in many different ways. These different interpretations add to the amount of label misconceptions, some of which are done on purpose by the food-marketing strategists.

There is no such thing as a universal definition of the term "nutritious",

so it is really no surprise that the general public interprets and understands the term in more ways than one. Since nutrient profiling and on-pack labeling are increasingly implemented in many countries, it is important to agree on a definition and regulation in easy-to-understand language for the consumers. While nutrition experts usually use words like “nutrient density” and macro-or micronutrients, the lay consumers use different descriptions like “body fuel”, “natural” and “wellbeing”.

“natural” really means when it comes to food. The words “natural”, “all-natural” and “100% natural” that often appear on products’ packaging, as well on the brand’s advertising, leave lots of room for misinterpretation. When meat products come into the equation, the definition of “natural” becomes even more worrisome. Are the animals raised indoors in a confined area and treated with sub-therapeutic antibiotics and artificial growth promoting hormones, including the controversial ractopamine?

ingredients is rapidly growing and constantly changing. Sales of “organic” and “natural” foods are growing at a faster pace than sales in other categories. While the word “organic” can be narrowly defined, “natural” food leaves lots of room for different interpretations. For example, can food retain the status “natural” if it is processed and when artificial additives are used to increase shelf life, improve flavor, taste, and health attributes or when it contains biotech ingredients? The answer is not easy - a barrage of lawsuits will most probably fight this issue with special interest groups on opposite sides.



Consumer demand for non-GMO food in affluent countries is growing and legacy food companies are responding. Even name-fame suppliers of world commodities like Cargill have bowed to consumer trends by offering products with a seal of approval for ingredients free of bioengineering. Of course, selling products verified as non-GMO can help boost profit margins for the specialty supply chain.

Consumers see “natural or organic food” as good and “processed food” as bad. The “clean eating” trend has inspired a back-to-basics approach in food development. “Free-from” and “flexitarian” options lead the way and existing products are upgraded to meet the new market demands for healthy and tasty food. An increasing number of consumers think non-GMO foods are inherently healthier.

Making Up the Mind

There is no doubt that there is a certain degree of misconception among consumers about what

Under the current FDA and USDA guidelines, “natural” can mean pretty much whatever a food company wants.

The “free-from” category is continuing to grow globally, including an increase in interest in GMO-free or non-GMO foods. Especially in the US, the GM-tide seems to have changed in recent years with many premium product launches featuring GMO-free claims.

The affluent consumers’ interest and attention for products that do not contain genetically-engineered

Clean is Confusing

There is no clear definition what “clean labeling” means, but it is obvious that food is now more than ever lifestyle-driven. Most consumers believe that food products with recognizable ingredients are healthier. This includes natural color and flavor ingredients, eliminating the usual science-sounding preservatives.

For example, the terms “clean” and “natural” are increasingly associated with “healthy”. In the mind and vocabulary of consumers, free-from foods are synonym with simple ingredients, non-GMO, and

minimally-processed. Yet, despite the positive name associations, many consumers find the words “clean” and “natural” polarizing and confusing, simply because there is no current agreed upon definition, and -subsequently- does not resonate when it related to sound dietary advice.

However, it is also true that there continues to be kind of inconsistency between what consumers say they want versus what they actually purchase. The point in case is that people still want their food to taste good even if healthier alternatives are available.

Come to think of it, the term “clean eating” is still confusing for many shoppers. This confusion is created by various words like “natural”, “healthy”, “fresh”, “minimally processed” or “free from artificial additives”. Consumers are inundated with these words and often feel a sentiment that the vocabulary is used as a marketing gimmick.

Basically, food manufacturers should agree to only use the term “natural foods” that are uncontaminated with pesticides, hormones, and antibiotics, as well as free from artificial - colors, - flavors, - emulsifiers, - stabilizers, and - sweeteners.

However, the confusion doesn't stop there. Especially progressive millennials like to move beyond the natural eating concept and include variables such as sustainability, animal welfare, no-GMOs, farming methods, and no chemical-sounding additives that imply a level of hyper-processing that alienate shoppers. As an example, for a simple cookie, it means ditching high fructose corn

syrup, partially hydrogenated oils, artificial colors and -flavors, as well as the preservative potassium sorbate and bleached flour.

Sustainable Greenhouse Gases for Organic?

Climate change and the food industry is a hot topic of debate

with many players setting ambitious goals to meet their own agenda.

To determine how agriculture food systems impact climate, it is very important to consider many variables, which are often clouded by the interpretation differing depending on what environmental goals one prioritizes. For some, it



GET IT
NATURAL
TRUST
YOUR
LABEL



might even be an inconvenient truth if things appear different than hoped for. In broad terms, it is difficult to capture all aspects of the debate, wherein there is often no winner or loser.

For example, to compare organic and conventional farming as well as calculating the carbon footprint and specific land use, it can be concluded that organically-farmed food has a bigger climate impact. The main reason is that yield per hectare is much lower for organic-farmed grain, pulses, and vegetables. Greater land-use in organic farming indirectly leads to higher carbon dioxide emissions, hence the hypothesis that it contributes indirectly to bigger deforestation.

has huge impacts on global greenhouse gas emissions. The main reason is that only some 15 to 20 percent of artificial fertilizer is taken up by the food crops while the rest will find its way into the atmosphere and into waterways, subsequently eroding bio-diversity and contributing to acid rain, polluting of drinking water, and acidification of the top soil.

According to research conducted in England and Wales -Journal Nature Communications, October 2019- completely switching from conventional to organic agricultural practices will result in an overall increase in greenhouse gas (GHG) omissions. While it is clear that oranic farming might require less

Research indicates that compared to conventional farming methods, overall emission in organic farming potentially could rise by 21 percent. The baseline is that the initial GHG organic farming reduction will be offset by approximately 40 percent drop in food production yields. The decrease in GHG emissions to lower crop yields and the implementation of nitrogen-fixing legumes in crop rotation, will reduce the amount of land available for production. For example, grain crops such as wheat and barley would see significant declines in yields.

In livestock like beef cattle and sheep raised in an organic environment will see prominent reduced meat volume due to lower carcass weights and longer fattening times prior to slaughter. On the other hand, organic farming significantly benefits cleaner air and water, improved biodiversity and "healthier" top soil.

Green Washing Natural Foods?

Although the terms "natural food" and "clean label" have no specific legal definition to date, an increasing number of new food introductions use these expressions and tout recognizable authentic ingredients that sound natural and healthy.

The greatest downside for natural and organic food products is its lack of regulatory definition. "Natural" or "Organic" brands can be especially weak when the products contain "non-natural" additives and ingredients, including traces of GMO's. Even the US Food and Drug Administration (FDA) have a rather weak and non-binding description of a natural food product. The FDA-



On the flipside of this hypothesis, energy use should also be taken into consideration. As such, artificial fertilizer (nitrogen) used within the vast majority of conventional or non-organic food production

farm inputs and increased soil carbon sequestration, it might also worsen emissions through greater food production elsewhere in order to make up for lower organic crop yields.



FSIS has long considered foods to be natural if they do not contain anything artificial, synthetic or that would not ordinarily be expected in food.

The lack of a formally-defined regulation about the term “natural” opens up the door for companies to “green wash” food labels. Green washing is when food companies make claims that their products are actually more natural than what they really are. In other words, food products may be riddled with unhealthy ingredients and additives that somehow avoid disclosure. Going forward, it is important for all natural and organic food products to be subjected to a vigorous set of standards of identity as what is considered natural.

The current policy for the term “natural” on food labels is vague and leads to categorize foods as “natural” based on the degree of processing. If the definition of “natural” is limited to unprocessed foods, very few foods will be labeled as such.

Since there is considerable confusion on the term “natural”, there is an urgent need to better define the terminology. Many food manufacturers add popular buzzwords on product labels, such as “cage free”, “humanely raised”, “grass fed”, and “antibiotic free”, and “no hormones, in an attempt to grab the attention of consumers willing to pay a premium.

Recently, litigation has thrown a wrench into the habit of food companies to loosely use the descriptive name “natural”. For example, granola bars should not be labeled “natural” if they contain high-fructose corn syrup, maltodextrin or several other highly-processed ingredients. This is also the case if -for example- 100% natural oat bars contain small amounts of the common pesticide glyphosate.

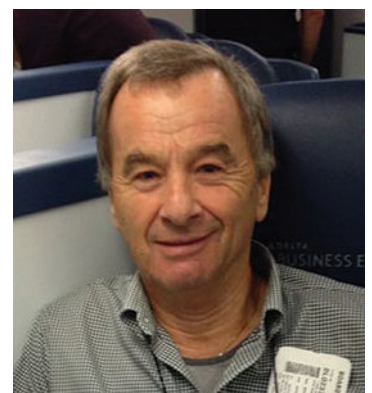
As a reality check: the tested product contained 0.45 parts per million, a level well below the Environmental Protection Agency (EPA) 30ppm limit. Despite these ultra-low levels, the manufacturer

walked into a legal minefield. To avoid litigation, some food companies may avoid the word “natural” as part of the label design and other marketing tactics.

Going forward, it will be difficult to meet the “natural” expectations of the consumers. For example, natural food labels that use words like “isolate” are increasingly frowned upon. In the mind of the consumer, “isolate” stands for “processed” or “not natural”. This is potentially a negative development for ingredients like soy protein isolate and other types of highly-concentrated plant protein powders.

Food companies should be 100 percent confident that there are no synthetic ingredients added when they use terms like “natural”. Glyphosate applied on the fields prior to harvest can be considered a synthetic ingredient, thus, disqualifies the food as “natural”. ●

About the author:



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Board member,
Author and Publicist

HPP, THE BEST WAY TO EXTEND SHELF-LIFE WITHOUT CHEMICAL PRESERVATIVES

High Pressure Processing (HPP) Meets 100 % of Consumers and Manufacturers Requirements.

Since 1899, when Hite used High Pressure Processing (HPP) to preserve milk, this technology has progressed in the most unthinkable ways: horizontal equipment, higher range (since 55 liters to 525 liters), automation and integration, specialised equipment to non-packaged beverage.

HPP is a non-thermal (5°C - 20°C) preservation process for food and beverages that applies hydrostatic pressure up to 6,000 bar (87,000 psi) for a few minutes. This is 6,000 times the atmospheric pressure.

Undoubtely, it is difficult to imagine how is it posible that these magnitudes can be applied to products without modifying their shape. The key is in the way that pressure is applied (instantaneously and homogeneously) and how food products are composed.

High hydrostatic pressures do not affect food covalent bonds but modify three-dimensional structure of proteins and polysaccharides. This breaks microorganism's membrane, inactivating phatogens, while at the same time preserves nutritional and organoleptic properties as if it was a fresh product.

In essence, the reason why hundred of enterprises around the world have trusted in this technology to revolutionize their process no matter syze, sector or product is because HPP is sinonimus of:

- Minimally-processed products. It keeps the original nutritional



Hiperbaric's Facilities in Burgos, Spain

and organoleptic characteristics of the product.

- Higher shelf-life. From few days up to weeks or even months, under refrigeration conditions, reducing the use of preservatives such as salt.
- Guarantee of food safety. It inactivates spoilage microorganisms and foodborne pathogens (i.e. Listeria, Salmonella, Vibrio or Norovirus).
- Innovation. It can be used for the development of products with novel or unique attributes due to its unique effect on food constituents.
- Environmental-friendly technology. It uses lower energy than thermal treatments; the pressurization fluid (water) is recycled and it is a waste-free process.

Furthermore, restrictions regarding size and shape of packaging of HPP products are minimal. While it

is important to maximize the filling ratio, the basic requirements are the water resistance and flexibility of the packaging, being plastic materials the best option.

If we think on meat and poultry products or seafood, we can't forget that consumers are very concerned about what they are eating and how sustainable it is, but also in safety. Recent news of numerous outbreaks of listeriosis and salmonellosis in the US and Europe, among others, have put food safety in the spotlight more than ever, becoming a moral duty more than a necessity for food industries.



Shucking Lobster Meat

Nonetheless, in this globalized world, companies also want to gain competitiveness and increase the shelf life of their products to reduce food waste and to access new markets without relinquishing quality and freshness.

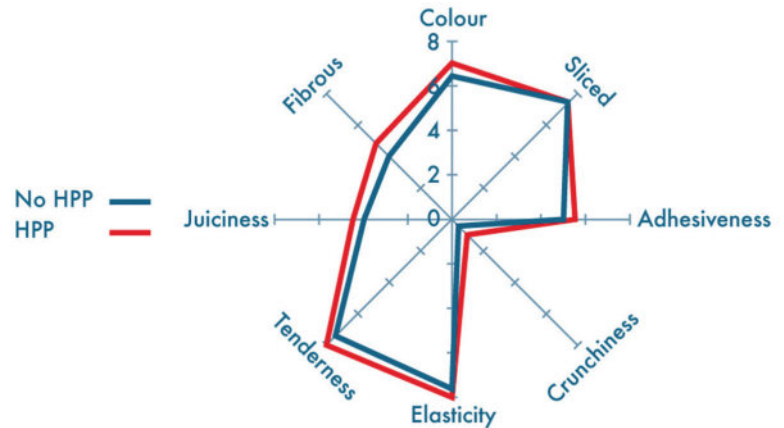
(sausages, ham, salami, mortadella, meat based ready to eat meals, pet food,...) that cannot use thermal treatments. Indeed, Hugas y col. in 2002 proved that cooked and cured ham and marinated loins processed by high pressures increased

dangerous knife manipulation while opening the shells.

- Mollusk shucking and higienization (Vibrio inhibition included) can be performed together to achieve quality seafood



Advantages HPP



Comparative of Meat HPP and No HPP

How Can HPP Help These Sectors?

If we talk about meat products, it has been shown that pressures about 400-600 MPa during 2-10 minutes inactivate main foodborne pathogens (Simonin y col., 2012). In the same way, it has been shown that thanks to being a post-packaging technology prevents recontaminations and extends products shelf-lives during their cooling storage (Bajovic y col., 2012)

Finally, HPP is the best choice to preserve fresh or cured meat

their shelf-lives until 120 days. While it is true that applying this technology to raw meat modifying its colour and sometimes its texture, there are several options to resolve it:

- Applying HPP to meats for catering.
- Use of pigments to hide or minimize changes.
- Applying HPP to more intensed coloured and darker meats.
- Applying HPP to Ready-to-Eat meals.

products such as safe, fresh tasting oysters with a longer shelf life.

- Using HPP, meat of crustaceans such as lobsters or king crabs contracted and detached from the shell, facilitating extraction with yields of almost 100%.
- The process also enables operators to work on smaller parts such as the legs or antennae of the crustacean where meat is most difficult to obtain. As there is no need for cooking, the process enables the meat to retain its natural flavors and provide customers with a fresh product for cooking prior to serving.



Seafarers' Crab Meat

In the case of seafood, HPP major applications are mollusk shucking and crustacean meat extraction.

Advantages are Indeniables:

- This application avoids handling of mollusks, which is a source of contamination and a potentially

For all of these reasons and without any doubt, HPP is the present and future technology for the meat and seafood industry. Hiperbaric provides the most reliable HPP equipment in the market. Currently exceeds 270 industrial units, across 5 continents and over 40 countries.

www.hiperbaric.com

HEAT TREATMENT OF MEAT PRODUCTS - HOW MUCH IS NECESSARY?

By Dr. Anette Granly Koch and Dr. Tomas Jacobsen

Heat-treating meat and other food products are a tradition that stretches far back into the past. The oldest clay pots used for this purpose were found in Japan and are approximately 13,000 years old. However, it is not always easy to determine how much heat treatment a given product needs to ensure that it is safe to eat. The bacteria we particularly need to protect our products from are the pathogenic bacteria that can survive heat treatment and then multiply in the product during cold storage, such as heat-tolerant *Listeria monocytogenes* and the toxin-producing *Clostridium botulinum*. DMRI at the Danish Technological Institute has prepared the following overview to help you select the correct heat treatment for your products.

Should the Product Have a Short or Long Shelf Life?

The first thing to consider when selecting the required heat treatment is how the product will be distributed and used. The degree of heat treatment required depends very much on whether the product is to be eaten now or at a later date:

- Is it a ready-to-eat product? If so, the consumers will eat it as it is.
- Does the product need reheating, and, if so, at what temperature and for how long?
- Will the product be eaten immediately after reheating?
- Will the product be kept refrigerated for a few days after heat treatment?

- Will the product be kept refrigerated for a longer period of time?
- Does the product contain preservatives that can inhibit the growth of bacteria (both vegetative and spores)?

The General Recommendations

The simple solution is to follow the authorities' recommendations, i.e. heat the product to 70°C or 72°C with a holding time of two minutes or heat to 75°C without any holding time. This kind of heat treatment results in at least a 7-log reduction in *L. monocytogenes* and is typically used for cold meat cuts (delicatessen meats), since these products often require a shelf life of 28 days at 5°C.

The More Complicated Choice

There can be several reasons for wanting to choose a milder heat treatment than that recommended by the authorities. When cooking meat sous vide, a lower temperature and a longer holding time (low temperature, long time) are often used, resulting in tender and succulent meat. When cooking meat at lower temperatures, no matter which heat treatment method is used, it is essential that the subsequent shelf life corresponds to the number of bacteria killed during the heat treatment.

Heat treatment to temperatures below 75°C (regardless of the holding time) does not inactivate spores from, for example, *Bacillus*

cereus and *C. botulinum*. Therefore, products that are heat-treated to temperatures below 75°C must be stored in such a way that growth of these bacteria is avoided. Both *B. cereus* and *C. botulinum* can multiply at 5°C, which is the storage temperature normally used in Denmark, whereas growth is inhibited at storage temperatures below 3°C. If *L. monocytogenes* survives the heat treatment, it can multiply in products stored at temperatures of 3°C or below. It is therefore necessary to combine heat treatment, storage time and temperature in such a way that both *L. monocytogenes* and the spore-forming bacteria are kept under control.

DMRI's Recommendations

To avoid growth of surviving *L. monocytogenes* or spores of *B. cereus* and *C. botulinum* in meat products subjected to a milder

FACT BOX

In order to achieve a 6-log reduction in *C. botulinum*, which can grow at 5°C, the product must be heated to 90°C with a holding time of ten minutes at 90°C.

In order to achieve a 6-log reduction in *L. monocytogenes*, the product must be heated to, for example, 72°C with a holding time of two minutes at 72°C, or it must be heated to, for example, 60°C with a holding time of 84 minutes at 60°C.

heat treatment than heating to 70-72°C with a holding time of two minutes, the safe choice is to store the products in the freezer or for no longer than five days at a maximum temperature of 5°C prior to use.

If longer shelf lives are desired, for example by storing the meat at 1-3°C, the growth of *B. cereus* and *C. botulinum* will be inhibited, but any surviving *L. monocytogenes* will be able to multiply. Therefore, the heat treatment used must ensure a 6-7-log reduction in *L. monocytogenes*, or a combination of preservatives must be added to the products in order to inhibit the growth of *L. monocytogenes*.

Products stored in a freezer or at temperatures below 8°C for a maximum of five days:

- Heat treatment resulting in a 1-4-log reduction in *L. monocytogenes* is sufficient, since the number of *L. monocytogenes* in fresh meat is low (< 100 cfu/g).
- Refrigerated storage for a maximum of five to ten days inhibits the growth of *B. cereus* and *C. botulinum*.

Products kept refrigerated at temperatures below 3°C for up to 30 days:

- Heat treatment resulting in a 6-7-log reduction in *L. monocytogenes* is necessary, since any surviving bacteria will be able to multiply to high levels during storage for, for example, 30 days. If the heat treatment results in less than a 6-log reduction, the product must be stabilised against growth of *L. monocytogenes*. This can be achieved through different combinations of pH, salt, lactate and acetate.

NATURAL SHELF LIFE EXTENSION – GERMEX V

GERMEX V increases the shelf life of cooked sausage, cooked ham and meat preparations. The new product is based on dried, buffered vinegar. It is highly effective against bacteria, molds and yeasts. GERMEX V is water soluble and has almost no effect on the final pH-value.



- Storage at temperatures below 3°C inhibits the growth of *B. cereus* and *C. botulinum*.

Products kept refrigerated at 5°C for up to 30 days:

- Heat treatment resulting in a 6-7-log reduction in *L. monocytogenes* and *C. botulinum* is necessary, since any surviving bacteria and spores will be able to multiply to high levels during storage for, for example, 30 days.
- less than a 6-log reduction, the product must be stabilised against growth of *L. monocytogenes* and *C. botulinum*. This can be achieved through different combinations of pH, salt, lactate and acetate.

The above recommendations are based on research financially supported by the Pig Levy Fund. ●

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* The article in reference was published in *FLEISCHWIRTSCHAFT international* (34) 3, 24-25.

HIGHER QUALITY STANDARDS FOR INDROL

Marel Poultry Upgrades Leading Polish Turkey Processor

Poland, already the largest broiler producer in the European Union, is now the fourth largest processor of turkeys behind Germany, France and Italy. For Polish turkey producers the story does not stop here; the sector has ambitious plans for the future. Marel Poultry has established a firm foothold in the turkey sector. Its latest installation is at the Indrol processing plant.

A complete range of Marel Poultry’s advanced and innovative turkey processing equipment has been installed at the Grodzisk Wielkopolski processing plant of Indrol, one of Poland’s leading high volume turkey processors.

Mr Pawel Waligorski, Owner of Indrol, comments, “At Indrol we were looking to increase hourly throughputs to allow us to keep up with increased demand. At the same time we wanted to improve our overall operating efficiency and,

most importantly, offer our customers even higher quality standards.”

Male and Female

Marel Poultry was asked to supply a full-scale evisceration installation and the overhead conveyor system for the first shock phase of a two stage air chilling system. Indrol processes male turkeys of an average live weight of 20kg and females of an average live weight of 10kg. The new automatic evisceration line needed to be capable of increasing hourly capacity from 1,800 to 2,500 females per hour, while also allowing up to 1,200 males per hour to be handled.

Evisceration

The new evisceration system comprises carousel machines for venting, opening, evisceration, neck flap inspection, neck cracking and removal, final inspection and

inside/outside washing. The three point suspension system brings eviscerated carcasses into the correct position for manual gilet harvesting, preventing contact between the drawn viscera pack and the back of the carcass.

No Added Labor, More Hygiene

Mr Waligorski continues, “We are really delighted with our new evisceration system. Not only have we been able to increase our hourly throughput by 50%, we have been able to do this without adding any labor. Our process is now also much more hygienic”.

The viscera pack is drawn cleanly from the carcass. The neck flap is cleaned automatically and the final inspection and inside/outside wash machines ensure a carcass free of unwanted debris and thoroughly washed both inside and out. A new vacuum transport





system transfers heads and feet cleanly from the evisceration department.

Long and Heavy

The new evisceration system has been installed as an extension to Indrol's killing and plucking line, which now boasts a Stork overhead conveyor system whose drive units are controlled by the tried and tested Stork ATC (Active Tension Control) system. ATC is particularly useful where conveyor systems are long and where heavy products are transported, both the case at Indrol.



First SmartWeigher for Turkeys

The project also included the installation of a new "shock" chiller to bring carcasses down to the desired core temperature in about sixty minutes, which inhibits the growth of harmful bacteria. For this chiller Marel Poultry was asked to supply the overhead conveyor system, automatic unloading stations and a SmartWeigher unit, worldwide the first of its kind in a turkey processing plant.

Besides enhancing product quality, Indrol also wanted to optimize both overall operating efficiency and customer service. It is here that SmartWeigher plays its crucial role. Eviscerated products are rehung manually to the overhead conveyor of the shock chill line, after which they enter the SmartWeigher unit, installed ahead of the shock chiller itself.

A Day's Notice

Mr Waligorski comments, "Because of the SmartWeigher we now have a day's notice of every product's weight entering our chilling system. This is a huge help to us in ensuring that we always meet

our customers' orders accurately and on time. We pride ourselves on the excellent relationships we have built up with our customers. This is a top priority for all of us at Indrol."

SmartWeigher allows Indrol to keep a close check on any yield loss during the chilling process and take any corrective action necessary. This overhead conveyor system also has ATC. Three programmable unloading stations distribute shock chilled turkeys to three manual rehang points to the second stage air chiller.

Job Done Efficiently and on Time

Mr Waligorski concludes. "For us it was crucial that all equipment was installed over a long holiday weekend at the beginning of May this year. Marel Poultry assured us that they could do it.

They were true to their word; the equipment started up on time on May 6th. Since then performance of the equipment has been as we would have expected. So far, we are very satisfied".

www.marel.com/poultry

STEEN: DEBONING & SKINNING SPECIALIST



The STEEN ST828 deboning machine is a new way of deboning anatomically cut thighs and drums with maximum yield. Deboning is possible up to 45 pieces per minute with one operator. The machine first centres the bone and then pushes it through a

hole in a diaphragm. As the diaphragm follows the contour of the bone, it strips off the meat with the highest yield possible. The ST828 is not only good for de-boning chicken but now for duck as well. Thoroughly tested and approved by the company it makes its mark worldwide.

The ST700K, the new skinner STEEN has developed, is suited for all kinds of poultry. Duck is one of them.

This specially designed chicken skinning machine can be adapted to suit specific needs of the customer in order to provide

flexibility and optimize yield. The STEEN ST700K skinning machine is capable of processing wet or dry chilled products at high speed. The skins are taken off in one piece for increased value. The STEEN ST700K skinner can be a dual lane fed machine which in some circumstances allows the processing of two different products at the same time. This automatic machine can skin all parts of the duck, from wings to breast fillets to even the necks of the duck. It's easy to use and clean features make the skinner suits best to everyone's liking.

www.steen.be

TURKEY, DUCK, CHICKEN & POULTRY - MECHANICAL SEPARATION AT ITS BEST WITH LIMA!

LIMA are specialists in the manufacturing of meat-bone separators, deboners and desinewers with a world presence through a network of more than 70 distributors on all continents.

LIMA has made a name for itself in the poultry industry since its very beginning back in 1981.

Poultry processors, from small to big-scaled deboning cut-up rooms, are equipped with LIMA's separators, deboners or desinewers.

The best quality of poultry MSM at optimal yields with LIMA S meat-bone separators:

The purpose is to maximize the value of co-products such as,



With its compact size, the LIMA RM 50 S enables to reach yet substantial outputs and is perfectly sized for chicken meat-bone separation applications, up to 600 kg / hr (1 320 lbs / hr) input capacity in chicken carcasses.



Simply the biggest available on the market: up to 20 000 kg / hr (44 000 lbs / hr) input capacity of chicken carcasses.

wings, necks, drumsticks and poultry carcasses after manual or automatic cut-up lines. These would ordinarily be discarded or sold at a very low price as it is virtually impossible to recover all this meat from the bones manually. The separation of

the meat from the bones is performed by using a rotary auger into a filter. The machine gently pre-crushes the bones as the auger pushes the raw material through the filter. The pressure is easily regulated by adjusting the distance between

two conical parts at the bone exit of the machine. A graduated device enables the operator to know exactly which pressure adjustment the machine is working at. As the pressure increases on the raw material, it enables the soft parts to be extracted through the openings of the filter, whereas the hard parts, such as the bones, continue their way through to exit the machine. The first and most common use of such separated meat, referred to as Mechanically Separated Meat (MSM), is the production of fine paste sausages such as Frankfurters.

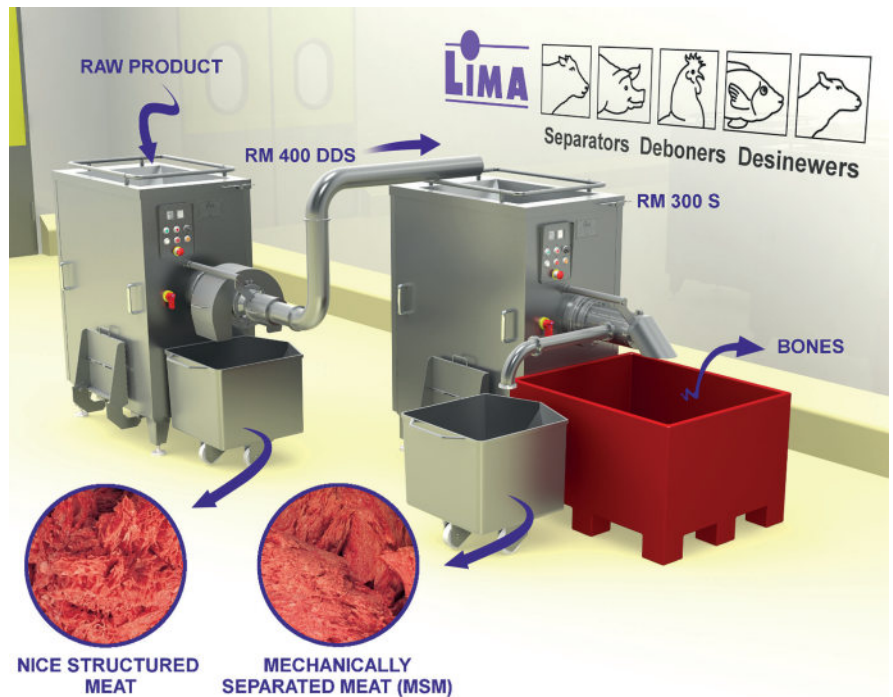
A range of LIMA S meat-bone separators from 100 to 20 000 kg / hr input capacity (220 to 44 000 lbs / hr):

The new range of LIMA DDS / DD desinewers and deboners ensures a very high QUALITY of meat on raw products such as poultry, but also pork and beef.

This high level of performance is the result of constant development on desinewers and deboner tools that submit raw products to the lowest pressure in order to preserve the technical qualities of the collected meat.

For desinewing of various raw materials, with or without cartilage (for example; turkey, chicken, beef trimmings, shank beef, pork meat and aponeurosis) high yields of 80-98% are obtained while C/P ratios remain under controlled values whilst the temperature hardly increases throughout the process.

For mechanical deboning, the same LIMA machines equipped with the adequate deboning head,



are able to produce exceptionally HIGH quality separated meat, in terms of structure, colour and low calcium content. These figures are less than 1 000 ppm and therefore are usually referred to as 'structured meat' or '3 mm meat'.

The mechanically deboning applications offer versatility for raw poultry materials such as necks, V-bones, drumsticks, front carcasses.

This range of LIMA low pressure desinewers / deboners benefits from all other LIMA machines advantages :

- No pre-breaking,
- Single stage operation,
- Low maintenance cost,
- Optimum high yields,
- Quick use and operator friendly
- Quick payback

In particular, only a limited number of parts are moving, which explains the extremely low cost of exploitation and the short time of cleaning and disinfection.

LIMA has developed several new desinewers / deboners machines that have a capacity of 100-15 000 kg/hr (220 lbs / hr to 33 000 lbs/hr) of raw products.

Last but not least, LIMA also proposes two-step separation lines (DDS + S) for poultry. This enables a multitude of poultry processors around the World to take advantage of LIMA's superior technology to produce high quality structured / 3 mm meat as well as excellent 'LIMA MSM meat'.

LIMA actively participates in more than 35 different tradeshow a year, many of them specializing in the poultry, meat and fish industries. An example of just some of these shows are, IFFA in Frankfurt, ANUGA in Cologne, IPPE in Atlanta, SIAL in Paris, Seafood Processing shows in Brussels and Boston, and many VIV shows in Europe, Asia and in the Middle East. So, please feel free to come and meet us to discuss your specific separation needs.

www.lima-france.com

“IT’S NOT JUST ABOUT THE AUCTION, BUT ALSO ABOUT THE INTERACTION WITH CONTRACTORS AND BUYERS.”

Industrial Auctions is a well-known name within the food and beverage industry. From the head office in Eindhoven, the auctioneer organizes auctions of machinery and full production lines all through the year. The contractors are mostly from the European Union, but the machines find their way all around the world in the food and beverage industry. “We distinguish ourselves from other auctioneers by just taking that extra step and investing heavily in personal contact. The fact that

meter is occupied with stainless steel machinery and complete production lines.

Industrial Auctions was founded by Ad Van Kollenburg in 2010 when he saw the need for a specialized auction agency. “It started with auctions within the meat industry, but later there were several specifically related auctions within the food and beverage sector. Many industries have common ground” says Van Berlo. “We can store almost a thousand machines here, but we

will take place at the end of this year. Not only auctions in the Netherlands, but also auctions in Poland, Germany, Belgium, Switzerland, England, Sweden and many more. “We offer a viewing day as standard, then as soon as the auction goes live and all the machines are on the website, technical descriptions, photos and videos can still be viewed online.” In the past you were required to be on location, where buyers had to keep a visual sign if they wanted to place a bid. Now a bid is made with the click of a mouse. All our auctions take place in Europe, but the buyers are literally from everywhere. Last week we loaded three containers that were shipped to Bolivia and Colombia.”



we arrange everything from start to finish is greatly appreciated by both buyers and sellers.” says marketing manager John van Berlo from Industrial Auctions.

The letters of “Industrial Auctions” on the facade of the building are clearly visible from the highway. However, what is not really clear from the highway is that there is a hall complex more than 5,000 square meters behind the glass facade. Almost every

prefer to auction “on location”. It is more practical to sell all machines on the spot, within the spaces where they have always been running.”

Most of the auctions do not take place in Eindhoven, but on location where the machines are located. “The place where everything will be auctioned does not really matter for the services”, Van Berlo emphasizes. He browses through the brochure of the auctions that

Teamwork with Contractor

Industrial Auctions has grown considerably in the last ten years. Around twenty employees are active at the company to steer all auctions in the right direction. “The selling parties are production companies, banks and traders. Companies such as VION, FrieslandCampina and Nestlé are already using the network of Industrial Auctions to sell their machinery. This is because they know that we go that one step further. For each auction we have a project team that goes to the location, makes an extensive technical description and takes large amounts of pictures of all inventory.

Contractors know that we deliver a high return on the machines and buyers know they are purchasing reliable items. If a buyer indicates to us that he is looking for something

specific, then we will alert him to a particular auction or machine that is being offered. In addition, we know that companies do not have time to watch every day, so we also provide timely information about a particular machine or, for example, production line that is being auctioned. This service and approach is enormously appreciated by our buyers.

For us, it is therefore not only about the auction, but also about the interaction with the contractor, who knows that our start prices are based on ten years of experience. "The starting prices on our website are therefore always fair and real" emphasizes Van Berlo. "We know that companies really prepare themselves for our auctions. An additional advantage is that machines purchased from us can already run within a week at their location. When you buy a new machine, you usually have to deal with a delivery time of a few months."



After-Sales

The after-sales are another aspect with which Industrial Auctions binds buyers. "Companies

consciously outsource the sale of their machines. They do not want to be constantly bothered with questions, but they want a simple sale and preferably a high return. The contracts are drawn up in advance. The auction process on the website has to run smoothly but we also help buyers with dismantling, loading and transport.

The service that Industrial Auctions offers has also translated into the removal of language barriers. "Our website has also been in Russian since March, because we do not want companies to encounter certain obstacles to participate in the auctions that we offer. Here too, that extra step is shown again. But in addition to our languages, we also speak the language of the food sector. We know what machines we offer and what they can be used for," concludes Van Berlo.

www.industrial-auctions.com



NEW FOOD SAFETY MANAGEMENT TOOL HELPS THE MEAT INDUSTRY CONTROL CONTAMINATION OF BACTERIA

DMRI is launching a new management tool for monitoring the hygiene level in slaughterhouses and on production sites. The tool offers a systematic review of the hygiene level for overall improvement and thereby control of unwanted bacteria.

Bacteria e.g. Salmonella, Listeria and E. coli is from time to time a problem in the food industry because these bacteria can cause illness to the consumer.

“The international meat industry has become more aware of these problems and is looking for solutions to improve the hygiene level. By introducing the food safety management tool, we offer the industry a well-documented solution that can help maintain focus on production hygiene, cleaning processes and the handling of carcasses that are critical areas of contamination,” says Claus Hindborg Christensen, Project Manager, Food Safety, DMRI.

The food safety management tool was launched at Cibus Tec 2019 and the systematic approach of the tool can be used in both slaughterhouses, meat production sites and food production plants in general.

Customized Checklists

The tool is based on verified checklists that help slaughterhouses and production sites identify critical areas and subsequent implement continued and systematic monitoring of the hygiene level.

“The monitoring of the current hygiene level during slaughter or meat production as well as the



At Cibus Tec, DMRI at Danish Technological Institute is launching a new food safety management tool for monitoring the current hygiene level in slaughterhouses and pork processors in order to improve the overall hygiene level and control sources for contamination of bacteria.

quality of the cleaning performed after the last shift will identify weak links. The tool is based on checklists that are customized for each production site and we train and educate key persons in using the tool, so they can perform the monitoring themselves day by day or month by month,” says Claus Hindborg Christensen.

The Human Factor

The ongoing focus on hygiene is key to control unwanted bacteria. Although, procedures have been written down and are known to the employees they are not always followed.

“We are all creatures of habit and when you perform the same procedures every day, you might not always follow protocol. By visually observing e.g. how an operator handles a critical situation like fecal contamination or disinfection of the knife between each carcass, you can get a full view over the

hygiene level,” explains Claus Hindborg Christensen.

Based On Many Years of Experience

The food safety management tool is developed based on many years of experience supporting the Nordic meat industry. Today, the Danish pork industry is one of the largest exporters in the world and is recognized for the high level of food safety.

“In Denmark, we have worked continuously with improving hygiene levels for many years and therefore, we know how bacteria travel around in a production plant. We have found, that production hygiene and the following cleaning process are the two key factors that have a critical effect on hygiene, shelf life and food safety, and this also applies to the food industry globally,” says Claus Hindborg Christensen.

www.dti.dk/dmri

NEW SOFTWARE ENHANCEMENT FOR MULTIFREQUENCY METAL DETECTOR SIMPLIFIES AND OPTIMIZES PRODUCT SET-UP FOR IMPROVED FOOD SAFETY

Addition of Auto Learn capabilities to software for the Thermo Scientific Sentinel multiscan metal detector helps optimize sensitivity, reduce false rejects and streamline product set-up.

A new software functionality available as a standard feature in the Thermo Scientific Sentinel multiscan metal detector [1] enhances set-up, making it easier and quicker for food processors to

system calibration that can be optimized for specific applications.

The Sentinel Auto Learn software from Thermo Fisher Scientific calibrates operation settings by allowing users to conduct product tests with clean products and with products containing likely metal contaminants. A detectability score for each metal type is displayed and operating parameters are automatically set to maximize

an expert operator many hours to optimize. By using data from products with foreign objects affixed, Auto Learn quickly automates set-up for each frequency in minutes. Auto Learn is designed to significantly reduce training time and the need for in-depth metal detection operation knowledge. It maximizes food safety while also reducing or even eliminating the costs associated with false rejects.

“The Multiscan metal detection technology platform in the Sentinel was designed to deliver exceptional sensitivity and the highest probability of detection.

With the addition of Auto Learn, the Sentinel metal detectors are now easier to use by operators of any skill level,” said Bob Ries, lead product manager, metal detection and X-ray inspection, Thermo Fisher Scientific. “The detectability score that Auto Learn generates for each type and size of metal, and the resulting operation parameters, eliminates the potentially time-consuming process to tune a particular application. Only a few button touches and product passes are needed from the operator, leaving the rest of the work to the intelligent Sentinel software.”

Auto Learn is now available as a standard feature on all new Sentinel multiscan metal detectors and as an upgrade for existing units.

www.thermofisher.com



improve inspection performance. The Auto Learn software feature allows users to conduct an additional set-up stage that can be used to capture data on products contaminated with metal foreign objects. This enables fast and easy

sensitivity and help reduce false rejects. Before the introduction of Thermo Fisher’s Auto Learn, metal detector set up was limited to the use of only clean samples. For many difficult applications, this process might have taken

[1] <https://www.thermofisher.com/order/catalog/product/SENTINEL5000?cid=fl-cad-Sentinel5000>

ACHIEVING MAXIMUM FOOD SAFETY WITH A POWERFUL COMBINATION: LAGAFORS' CENTRAL CLEANING SYSTEM CCS AND LOGTRACESYSTEM LTS

Lagafors specialises in hygiene solutions for the food industry. The company's engineering expertise has resulted in two outstanding food safety systems - the central cleaning system CCS and the LogTraceSystem LTS. These two systems work in conjunction to provide highly efficient, fully logged and monitored cleaning processes. They ensure the highest standards of hygiene coupled with excellent cost efficiency and complete documentation. This

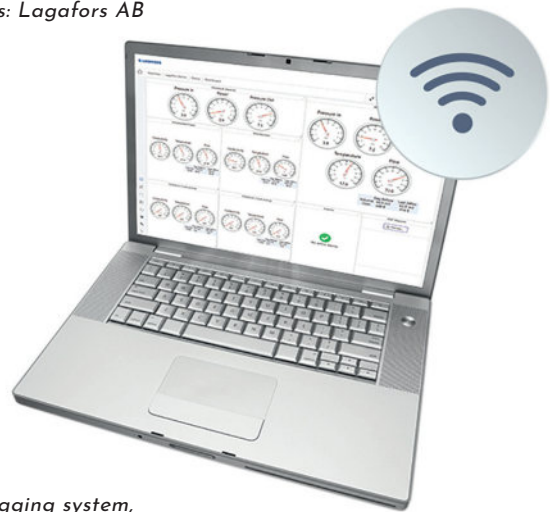
highly efficient system comprises the VCC II (Variable Chemical Centre) and various types of water pump systems. It feeds all satellite stations (VMS II) needed for operation. The central components deliver correct pressure, flow and chemical concentration at all times, ensuring safe handling and dosage accuracy for up to 30 simultaneous users. The CCS system stands for maximum hygiene as well as a reduction in environmental impact, and cost optimization

verifiability by allowing access to status and history at any time. The hardware for the water and chemicals dosing system is installed by Lagafors in the central units. Innovative software provides a secure login via internet, enabling the customer to evaluate the necessary data. For critical parameters such as chemical concentration, automatic alarm thresholds can be defined. If these are exceeded, immediate notification is sent to the responsible person in order to

pictures: Lagafors AB



pictures: Lagafors AB



Central Cleaning System CCS from Lagafors®

New logging system, LogTrace System (LTS), from Lagafors®

makes their contribution to food safety invaluable. The Swedish technology company will present its latest developments at the Cibus Tec in Parma, from 22. to 25. October in hall 3, booth E 043.

Central Cleaning System Ccs - Efficient, Accurate, Environmentally Friendly

The Lagafors central cleaning system CCS meets high demands on capacity, performance and quality. This user-friendly and

through careful use of resources. In comparison to most cleaning systems and methods, savings of up to 35% can be achieved.

Logtrace System Lts - Full Control, Complete Traceability

The LogTrace System LTS provides customers with a highly reliable cleaning process management and control system. The LTS logs all cleaning parameters and ensures complete documentation and

initiate corrections in real time. This makes for an active system that consistently delivers impeccable hygienic conditions. Comprehensive data collection allows customers to create consumption and cost reports that support business decisions.

LTS is an extremely efficient process control tool that, in combination with the fully compatible CCS central cleaning system, ensures outstanding quality in food processing and cleaning processes.

www.lagafors.se

X-RAY SYSTEMS FOR PACKAGED MEAT AND POULTRY PRODUCTS MEET EVOLVING INDUSTRY NEEDS

Just as meat and poultry products have changed in response to shifting consumer tastes and demands, so, too, have inspection technologies used to ensure the safety, consistency and quality of those items. While x-ray machines are regularly used to inspect traditional raw and bulk product in processing facilities, advanced inspection systems are installed to find and remove physical contaminants, conduct quality and integrity checks and enable better traceability in an array of packaged products, including trays, chubs, and boxes, among other forms and provide opportunities for process optimization.

“The growing diversity of packaged meat and poultry products brings a new and innovative dynamic to the industry, but also poses some challenges for processors who are adding to their portfolios while also keeping up with operational demands, staying compliant with stringent regulations and dealing with labor issues. Inspection systems can be used as a multifunctional tool to not only protect products and brands from potential hazards, but help processors run their lines more efficiently and flexibly,” says Michael Stuart, product specialist for Eagle Product Inspection.

According to Stuart, inline inspection systems help address many challenges that come from the ever growing variety of packaged meat and poultry products:

Chubs and Clip Closed Products:

By deploying x-ray systems, processors can detect contaminants,

including bone as well as mineral stone, glass, metal fragments and other foreign bodies in chub products. Inspection systems can identify missing, extra or damaged clips in chubs and detect “blowouts” from overfilling of ground meat.

Case-ready Products:

Advanced x-ray machines detect calcified bone, mineral stone, glass and metal contaminants in case-ready products. In addition to providing a scan of final packaging, x-ray machines perform important quality checks, such as the detection of missing items and total weight and box content.

Prepared Meals with Meat and Poultry Ingredients:

As demand for ready meals continues to increase, inspection systems find and reject contaminants in trays, cartons, boxes, pouches and other ready meal formats, while also being used to verify total and zonal weight and ensure the presence or absence of meal components.

Eagle continually updates its inspection systems and software to help processors deliver on consumers’ expectations for safety and quality of packaged meat and poultry products. For example, Eagle recently launched its next-generation Material Discrimination X-ray (MDX) technology. Initially focused on poultry applications, NexGen MDX is now the most powerful inspection technology available for detection of bone fragments in chicken breasts, by virtue of an image resolution three to



Eagle Pack 240 HC

four times greater than current capabilities and new advanced image analysis algorithms. NexGen MDX technology is powered through an updated version of Eagle’s proprietary SimulTask™ PRO image processing software.

In addition, Eagle now offers new item-level traceability. One example of this recent development is through the Eagle Pack 240 HC, which links inspection data to a unique identifier printed on each item. The machine is designed for easy sanitation in harsh environments like meat and poultry facilities. This specific system can be used to inspect fresh or frozen products in a variety of packaging formats, such as chubs, overwrapped trays, pouches, cartons, tubs, cups and plastic containers. In addition to foreign body detection, the Pack 240 HC conducts important quality checks like mass measurement, component count and the identification of missing/broken pieces. Additionally, with item-level traceability, rejected images can be stored against product barcodes. This means that should there ever be a product returned to the producer, a check can be made using the bar code, to see the actual x-ray image of the actual product in questions.

www.eaglepi.com

HIGHER PRESENCE OF CONVENIENCE PRODUCTS

Fish International: Packaging and Animal Welfare are Hot Topics

New products, the Packaging Directive in force since January 2019, sustainability and animal welfare in aquaculture: These are just some of the topics at the heart of the fish international from Sunday 9 to Tuesday 11 February 2020 at Messe Bremen. Once again, the organisers of

Germany's only fish trade fair will give visitors from the industry, retailing and horeca a forum for swapping and discussing new ideas.

As a showcase for new products, the fish international 2020 has a lot to offer, especially as many exhibitors are coming for the

first time. For example, Turkey's largest fish farming company will be presenting its Olive Flounder (*Paralichthys olivaceus*) in Bremen. Cooks in Asia value this meaty fish for sushi and sashimi, but it is largely unknown here. A company from Java is keen to tap into the German market with its sustainably farmed tilapia and products such as fillet of tilapia in Parmesan crust. "We've identified a trend towards more frozen and convenience products", says Sabine Wedell, project manager of the trade show. One more example of this is an Irish company presenting new spice mixes and toppings for salmon, cod, hake and other fish.

One of today's major concerns is protection of the environment. This has led to new regulations such as a directive that demands packaging must be "especially recyclable". The engineer Till Isensee will give a presentation that illustrates the confusion caused by this vague description. He points out: "Seven disposal companies operate in Germany, and all define recyclability differently." Producers are increasingly using paper packaging in response to consumer demand. "Many consumers think paper is better for the environment than plastic," says the expert. "But paper is often coated, which makes it a non-recyclable compound material, unlike pots made of simple plastic." Isensee will show how companies can deal with the demands from all sides, and he will also offer to inspect packaging.



For almost ten years, fish international has been continually extending the exhibition’s focus on aquaculture. This time, vendors can also use the SCOPE Lounge for talks with their customers. One organisation taking advantage of this offer is the Initiativkreis Tierschutzstandards Aquakultur (Initiative for Animal Welfare Standards in Aquaculture), which unites scientists, associations and major retail chains. “It looks for example at options for stunning fish before slaughter. In most countries, stunning is neither required by law nor practiced,” says Sabine Wedell. She is confident the initiative’s ideas will have an impact. “Because of the market power of the retailers, they have a far-reaching influence. Especially as they buy not only in Germany.”

The trade fair programme also includes tastings in the “Räucherbox” smoke house, a



special counter show, the award of the Seafood Star for good concepts for instance in fish retailing and the presentation of their certificates to newly qualified fish sommeliers. Preparations

for the traditional Trawl Party are already in full swing. After the dinner, the band New City Beats will stage a funk-pop dance show that will soon fill the dance floor.

Visitors can take a look not only around Hall 5, but also Halls 6 and 7. This is the venue of the fourth GASTRO IVENT for the horeca industry. The trade fair covers technical solutions, high-end food and drink as well as furniture and fittings. Highlights are a coffee special and an area for East Frisian products.

The fish international will open on Sunday and Monday from 10 a.m. to 6 p.m., and on Tuesday from 10 a.m. to 5 p.m. Ticket prices start at EUR 24.

www.fishinternational.com





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