INTERNATIONAL

17 / 2017

MEATING POINT magazine

SUSTAINABLE TECHNOLOGY, PROCESSING & PACKAGING

IPPE 2018

FOCUSES ON INNOVATION, EDUCATION, GLOBAL REACH, AND NETWORKING

Happy New Year!

PROTEIN: A JOURNEY TO A NEW REALITY

PREVENT THE FORMATION OF NITROSAMINES DURING BACON BAKING MANUFACTURED WITH A BLEND OF NATURAL COMPOUNDS

THE PSYCHOLOGY OF FOOD WASTE

www.meatingpoint-mag.com

THE SIX-SECOND PROJECT™

MEAT PREVENTS MALNUTRITION

Join the Industry's Movement to Fight Child Hunger with Animal Protein-Based Solutions

The Six-Second Project partners with the global meat industry to fund animal protein-based hunger solutions in communities where children are chronically malnourished.

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- Make a Donation
- Join Our Hunger Task Force
- Subscribe To/Advertise In MEATing Point Magazine. MEATing Point Donates 3% of all ad sales and €/$6 per subscription to The Six-Second Project's hunger-fighting efforts.

Learn more at www.thesixsecondproject.org | info@thesixecondproject.org

Dear reader,

Tristan Bogaard

It's time to wave goodbye to yet another year and ring in the new. It's just a few days until the start of the holiday season, and I am sure you are counting down the days to get your cosy slippers out, hang the stockings and get the fireplace going. This festive season is made up of endless memories that weave themselves together to create the perfect magical Christmas for you. The holiday especially reminds us of the special gifts that come with simple act of goodness.

"No act of kindness, no matter how small is ever wasted". Aesop

Enjoy the season of giving with simple act of kindness. Support the Six-Second Project, a nonprofit charitable organisation that partners exclusively with the global meat industry to develop and find animal protein - based hunger solutions. Recruit meat industry partners, colleagues and employers to join the cause through corporate sponsorship. Learn more at **www.thesixsecondproject.com**

In this edition we tackle the food waste which continues to be a hot topic among countries, companies, and consumers around the world who seek to address the challenge facing food insecurity. Consumer studies show how consumers feel uneasy about food waste, and regard the food waste as unethical in the light of hunger and malnutrition in some parts of the world. " The Psychology of Food Waste", an article by Jessica Aschemann - Witzel, explores the reasons for this, and what business in the food sector do to contribute to solutions tackling consumer food waste? With this in mind, a US -based startup is turning food waste into liquid fertiliser and animal feed in three hours. Read the interview with the Co-Founder Justin Kamine and one of his sons Metthew Kamine about their solution - the Ferrari of composting.

Another yet important question related to food insecurity is: How can the world provide sustainable protein supply that meets the growing nutrition and health expectations? Henk Hoogenkamp provides an in-depth insight into the topic in his article "Protein: A Journey to a New Reality, Part 2"

As always, we review some of the industry's most significant "Meating" Points. One of them is IPPE, the world's largest annual, feed and meat industry trade shows, which will be held Tuesday through Thursday, Jan.30 - Feb.1, 2018, at the Georgia World Congress Centre in Atlanta, Ga. USA.Find some of the innovations to be showcased on pages 20-27.

Lastly, with this final issue of 2017, I want to thank you to our readers, supporters, advertisers and contributors. Wishing you all a Merry Christmas and a Happy New Year!

Enjoy your read!

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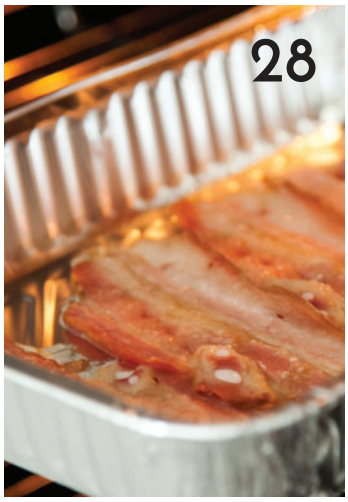

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- Cooking, Coating, Frying
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Ordering Deadline: 15 February 2018
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VIKAN LAUNCHES 4 NEW STAINLESS STEEL SCRAPERS

To facilitate more effective removal of sticky, dried and burnt-on soils, Vikan has launched four new Stainless Steel Scrapers. Both handheld versions and extendable versions with a threaded handle are available, each in two popular sizes.

The new Stainless Steel Scrapers were developed to deal with some of the toughest stains in the food and beverages industry, including:

- Dough, confectionary gels and pastes
- Soft chocolate, cheese
- Dried powders, other bakery debris
- Hardened chocolate
- Burnt-on meat and other soils

A stainless spring steel blade, a high-strength attachment and – in the handheld models – an ergonomic finger rest enable forceful soil removal without the use of excessive hot water or detergents.

Easy On Surfaces

While tough on soils, rounded blade corners ensure that these scrapers go easy on surfaces, so that cleaning staff can protect tables, other work surfaces, equipment and utensils while keeping them cleaner.

Handheld Or Extendable

In addition to the two handheld scrapers, a pair of extendable versions is available. These feature a threaded handle that fits any of Vikan's colour-coded and threaded handles.

Vikan Global Hygiene Specialist Debra Smith says:

"The soils these tools are designed to remove are amongst the most

stubborn you'll encounter in food and beverage facilities. The new scrapers enable staff to remove these soils more effectively and easily – which means more hygienic environments and, ultimately, less risk of food safety issues."

Available now, the Stainless Steel Scrapers come in up to 9 colours, depending on the version.

www.vikan.com

CORBION STRATEGY UPDATE: CREATING SUSTAINABLE GROWTH

During its Capital Markets Day for analysts and investors in Amsterdam, Corbion management presented its Strategy Update for the period 2018-2021: Creating Sustainable Growth. Corbion has built a solid foundation for the company in the past years with its Disciplined Value Creation strategy. The new strategy aims to deliver higher organic sales growth* of between 3 and 6 percent annually.

Tjerk de Ruiter, CEO of Corbion, comments: "Since 2014 we have made great strides in strengthening Corbion, building one coherent company, and creating value in a disciplined way. We are now ready for the next phase of increased organic top-line growth and continued value creation for our stakeholders. We aim to be the leading innovator for sustainable ingredient solutions by offering conscious choices, uniquely tailored to create customer value.

Our ambitious sustainability goals are aligned with the United Nations Sustainable Development Goals to create maximum positive impact."

Growth Initiatives

In Ingredient Solutions**, Corbion has prioritized the following growth initiatives. In Bakery, we will expand in Latin America, while in the US we will target faster growing segments such as sweet goods and the foodservice channel. In Meat, Corbion will extend the current antimicrobial/preservation product portfolio to a wider offering of ingredient solutions. In Biochemicals, we will continue with the portfolio approach based on lactic acid, boosted by new innovations such as the resorbable polymer applications in Biomedical.

In Innovation Platforms**, Corbion's portfolio contains several initiatives that are on the brink of contributing meaningful sales levels in PLA (in joint venture with Total) and DHA (in joint venture with Bunge). In addition, other organic acids such as FDCA and biobased succinic acid will remain part of Corbion's strategic innovation program.

To support these growth initiatives, Corbion will invest more in R&D. The R&D expenses as % of sales will increase from 3% to 4%, while at the same time the organization will be adapted to accommodate the solutions model, with increased focus on customer needs, co-creation and sales support.

www.corbion.com

** Defined as IFRS reported sales + proportionately consolidated sales from joint ventures in Innovation Platforms*
*** To better reflect the activities in each segment, Biobased Ingredients is now Ingredient Solutions, while Biobased Innovations is now Innovation Platforms*

DEKORA® - SAL SAL OIL MARINADES

Clean Label Marinades From Indasia in Three Delicious Flavours

The new sal oil marinades from Indasia are free from hydrogenated oils and palm oil. With their incomparable shiny optic, the clean label marinades enrich every dish sustainable.

"As a modern family business, and one of the leading spice plants in Germany, we are not only responsible for the quality of our products, but also for the environmemt and future generations", Marketing Manager Sabine Mueller-Weinhold explains. At an early stage Indasia sets standards in transparency and sustainability. As a member of the RSPO (Round Table of Sustainable Palm Oil) and signatory to the BSCI (Business Social Compliance Initiative), the sustainable cultivation of raw products plays as important role as does responsible behaviour towards people and nature.

The most recent initiative for protecting the rainforest involves changing the raw product from palm oil to sal oil. The three new sal oil marinades demonstrate convincingly that it is possible to manage without deforestation and cultivating plantations.

Due to its comparable properties, sal oil is a perfect alternative to palm fat for the processing. "The brilliant optic, the full flavour and simplicity of use are guaranteed", Lukas Willmann, member of Indasia´s sales team, promises. Additionally, due to the lower melting point, equipment can be better cleaned after use with the new sal oil marinades.

It also improves the transmission of flavourings within the marinade to the meat.

You get the sal oil marinades in the three most popular flavourings paprika, curry and herbs.

www.indasia.com

BATCHING BIGGER PRODUCTS

Marel MultiHead Weigher Medium

The latest member of Marel's multihead weigher family tree is the MHW Medium Fresh. Featuring 20 heads, it can be used for packing fresh, sticky poultry parts into fixed-weight batches at high capacity. The MHW Medium will doubtlessly become one of the most popular weighers of its family, as birds are getting bigger worldwide.

For various projects around the world, particularly in markets where bigger broilers up to 3500 grams are common, the MHW Medium is the perfect solution.

Proven Technologies

The MHW Medium is based on the proven technologies of previous generations of multihead weighers

from Marel. It is backed by the same Innova software and it can therefore perform up to six different target weight jobs as well as simultaneous catch-weight and fixed-weight jobs. It features an internet connection for remote support and optional camera monitoring.

The Marel MHW Medium is suitable for the weighing and batching of typical fresh poultry products such as breast fillets, thighs, drumsticks, wings, tenderloins and nuggets.

Two by Two

Two photocell sensors monitor the flow of product to the unit for continuity. Products are conveyed upwards and released on the rotating center cone. They are then distributed to the weighing hoppers via the screw feeding channels. Each alternate screw turns clockwise, while the screws between them turn anti-clockwise.

One Piece At a Time

The MHW Medium has a redesigned top, equipped with a new product leveler for better infeed and recessed buffer zones for better product flow. The new screws allow correct singulation; products cannot stick to each other. Two sensors at the end of each channel detect when a product has passed and has been dropped into the storage hopper. The screw will stop feeding products until the hopper is empty again. All these improvements increase the percentage of single pieces fed to the hoppers.

Perfect Batches

With only one product in each hopper, it is much easier to make perfect fixedweight batches. The accurate combination of 3, 4 or 5

products means precise tray weights, resulting in fewer rejects and higher throughput. When using five hoppers at a capacity of 50 products per minute, the computer will have 3,000 combinations to choose from, allowing it to make the perfect batch. This results in considerably less give-away.

Split Configuration

The MHW can feature an optional product splitter, located on its top. When configured as a "split" machine, it is possible to feed the MHW Medium with two different bulk products. They are conveyed to the top of the weigher from where they are kept separate for the rest of the process, allowing two different jobs to be batched at the same time. An example would be the simultaneous batching and packing of poultry wings and thighs. The batches could consist of 1,000 gram wings and 1,500 gram thighs.

A Russian Wing Mix

When configured as a "mix" machine, the MHW Medium will also run two different products, although in this case they come together to make a mixed batch. For example, it is possible to run 400 gram right wings and 400 gram left wings, which will eventually join each other into the same package. In Eastern Europe and Russia, supermarkets like to present their whole wings in a tray with left and right wings nicely arranged in a so-called "pigtail" pattern. The Marel MHW Medium is the perfect system for carrying out such a challenging automated packing job.

www.marel.com

TEN INTEGRITY CHECKS, ONE MACHINE: SAVE MONEY AND TIME WITH THE NEW X39 PRODUCT INSPECTION SYSTEM

Manufacturers of frozen-formed burger patties (beef, pork, chicken, fish and vegetarian) can now meet retailer and fast food chain conformity standards and reduce contamination more accurately and efficiently using the new Safeline X39 x-ray system from Mettler-Toledo Product Inspection.

"Retailers and fast food chains are setting increasingly high standards for product conformity and detection of contaminants in order to protect their brand and consumers," says Mike Pipe of Mettler-Toledo Product Inspection. "At Mettler-Toledo we make it our mission to develop technology that makes it easy for food manufacturers to meet and exceed such expectations. Our new X39 x-ray inspection system is a perfect example: it has been specifically designed for free flow, frozen formed food applications and is guaranteed to conduct ten integrity checks at 1,800* pieces a minute – an industry first."

Speed is a major consideration for manufacturers needing to ensure conformity of frozen food patties as they cannot be held for longer than eight minutes in a blast freezer without suffering degradation. It is therefore critical that the product inspection technology used in the manufacturing process is fast and efficient and does not cause unnecessary stoppages that could result in production line downtime. The X39 has been developed specifically to meet these requirements.It conducts ten integrity checks across multiple lines and accurately targets individual patties for removal in real-time – irrespective of product position and without the need to stop production. This significantly reduces waste, rework and downtime to deliver bottom-line savings for food manufacturers.

Double Checking: The Technology

The X39 x-ray system has a two-stage inspection process that enables food manufacturers to deliver the highest levels of product consistency and

quality with a single machine. The first stage uses integrated laser technology that determines conformity with pre-programmed product parameters for length, width and height, as well as checking for any flake defects. Non-conforming products are rejected, while good product continues to the second integrity check.

The second stage uses an x-ray detector to inspect the remaining good product for foreign-body contaminants such as calcified bone, mineral stone, glass, metal and high-density plastic; while simultaneously checking for holes, dents and edge defects, plus any anomalies in mass and shape.

At each stage reject nozzles, using jets of air, accurately target and remove non-conforming products down a gap between consecutive conveyors into a primary rework bin for high accuracy sorting. If the product is too large to fit in the gap – for example two patties joined together – a rejection flap will automatically remove the item.

For maximum operational efficiency, the X39 is equipped with advanced software that makes the system very simple to operate and is designed to ensure that the technology is always fully optimised. Product changeovers are very quick because menus can be stored, reducing human error. The software monitors all aspects of the system and provides pre-warnings of the accuracy of the lasers, reject nozzles and reject confirmation sensors. In addition, the technology records and collects all inspection results for due diligence and food safety legislation requirements.

The X39 is IP69 rated and is designed for ease of cleaning and maintenance to minimize downtime. For example, tasks such as individual sensor replacement can be achieved without stopping production. The X39 design follows the industry recognised European Hygienic Engineering and Design Group (EHEDG) and National Sanitation Foundation (NSF) guidelines to meet the highest hygienic standards required by manufacturers working with raw food products.

www.mt.com

DIBAL CW 800: NEW AUTOMATIC CHECKWEIGHER FOR PRODUCTION LINES

DIBAL CW800

The new Dibal CW 800 automatic checkweigher stands out for its excellent features and its value for money. This equipment helps to optimise production control and guarantees the quality of the final product.

It is and automatic checkweigher for products up to 15 kg, with optional rejection system, suitable for dry or wet environments.

The equipment checks that the weight of the products is correct without stopping the production line, reaching a performance up to 100 packages per minute.

If the weight is above or below the set range the equipment automatically rejects the product.

These are some of the advantages of Dibal CW 800 automatic checkweigher:

Intuitive

• 15" touch screen with a simple and attractive interface.
• Machine integrated easy-to-use software for data management (weighings, articles, orders and clients) and telecharge from the equipment.
• USB port for data sending and dumping of orders.

Precise

• ADC high speed (4,800 samples/sec)
• Instantaneous weight display.
• All the weighings data capture, exportable to PC.

Simple

• Compact and lightweight design, easy to clean.
• Modular construction: up to 4 conveyors and 3 rejectors (minimum weight, maximum weight, metal detection).
• Reduced measures and weight.

Easy Integration In Existing Production Lines

• Combinable with other industrial equipment: deflectors, aligners, misaligners and Dibal MD-5000 metal detectors.

www.dibal.com

BAGS OF IDEAS: 'FLAVOUR-IT' COOKING BAGS OFFER BAGS OF FLAVOUR

A COOKING bag for the oven or BBQ which flavours food during the cooking process is one of many innovative food packaging products from Sirane – providing Bags of Flavour.

The popular oven/BBQ cooking bag in our Flavour-it range uses a blend of kilned beech blended with frozen herbs and spices, which are placed in a sachet and then slipped below the bag's non-stick layer – releasing smoky flavours into the bag while the food cooks.

Simon Balderson, Sirane MD, said: "We've got a great range of cooking bag solutions, and this is a fairly simple idea, but one which transforms any cooking bag in to a bag of flavour. Retailers and customers alike are often looking for the same thing – the best possible flavours with the least fuss, so this is a solution which should find favour with everyone.

"This provides a great option for retailers and a very versatile solution. It could be used over the fresh food counter, supplied shipped into store with the flavour sachet already placed in the bag, or could even be used as part of a 'smoky meal kit' for home use.

"We've some interesting flavours on offer, so this product has lots of potential – it is very exciting for us. Smoked food is becoming increasingly popular, and this is a great way to offer a variety

of exciting flavours to your customer with minimal effort on your part."

Sirane can offer six flavour combinations as standard: onion, mustard & spices; rosemary, juniper & spices; garlic, ginger & spices; mustard, sweet basil & spices; bay leaf, onion and spices, and juniper, pine cone and spices. However, other flavours can be developed.

There are flavours designed to complement fish, poultry, red meat, shellfish and even game.

The Sira-Cook Supreme bag for oven/BBQ is simple to use, cooks food to perfection. The wood chip sachet blended with dried herbs and spices is placed below the perforated non-stick layer, allowing the flavours to permeate through while the food is cooking.

Simon Balderson, Sirane managing director, said: "Our popular Sira-Cook Supreme cooking bag has so many potential uses – and offers many advantages to users. But using the bag as a "bag of flavour' could really help retailers stand out on the crowded shelves.

"It is a foil bag capable of withstanding significant direct heat, allowing for its use on a barbecue as well as in an oven. The food will remain tender, retain all the juices and flavours as well as the goodness. This product is a great idea for meat, poultry and seafood.

"For the customer there is no mess, no smell, and no need to handle the food. The bag can be heat-sealed or folded over, and add genuine value to retail food sales.

"The bag is available in a number of sizes. It comes with a clear top panel – so users can see the food which is being cooked – and can be heat-sealed or even supplied as self-seal."

Sirane also offers a number of alternative ways of flavouring food during the cooking process. These include smoke enhancement, which can be applied to either wood chips and used in a cooking bag in a similar way, or even to our absorbent ovenable pads.

As well as BBQ/oven bags, Sirane manufactures a wide range of other cooking bags including steam-cooking bags for oven/microwave (including a new stand-up version), nylon roasting bags and sous-vide bags and even multi-compartment bags.

Sirane recently launched the Bags of Ideas campaign as a way of combining and simplifying all company's cooking bags solutions – these include steam-cooking bags, oven/BBQ bags, flavoured cooking bags, nylon roasting bags, sous-vide bags, and more.

www.sirane.com

PRODUCT SAFETY AND HYGIENE IN THE MEAT INDUSTRY - THE NEW DETECTOGRIP KNIFE SERIES AND THE DETECTO STEEL HYPERDRILL KNIFE SHARPENER

When it comes to processing meat, knives and tools with plastic handles must be used exclusively. Handles made from soft plastic material hold the risk of abrasion and the finest particles may get into food. This problem can be prevented if knives and tools with hard plastic handles are utilised. Nonetheless, food can be contaminated with metal and plastic particles due to damage to the knife.

Unlike metal parts, parts made from conventional plastics cannot be detected with detectors or x-ray devices. A new innovation at Friedr. Dick is the DetectoGrip detectable knife series and the Detecto Steel HyperDrill knife sharpener. By mixing metal parts into the plastic, pieces of plastic can now be detected in food by commercial metal detectors and x-ray devices. In collaboration with our plastic manufacturer, a material has been developed that has further improved the detectability of this plastic mixture. This has been successfully proven in internal and external tests.

Foreign particles that get into the food production process can lead to machine damage, expensive product recalls due to defective products or even to personal injuries. In addition to the direct costs, the co-inciting reputation damage for the affected company can cause greater damage.

The detectable products from Friedr. Dick thereby provide a valuable contribution to quality assurance and reduce the risk of undiscovered foreign particles in the processed products and thereby also the risk of product recalls.

Everyone responsible for selecting the processing tools can now be sure they are exclusively creating products that correspond to today's level of product reliability.

Special features of the DetectoGrip-Knives

- Detectable plastic handle
- Non-slip ergonomic handle without abrasion
- Safety thanks to a finger guard and thumb rest
- High-grade knife alloy
- No gaps between the blade and handle

The DetectoGrip series has received the American NSF seal of quality, the materials used are safe and approved according to the food regulations and are thereby suited for food products. The DetectoGrip series with various blade shapes and lengths, can be found at specialist dealers and distributors.

With the strong increase of semi-skilled labor in the meat industry, less than ideal results are being achieved with sharpening steel and the challenge continues to grow. Friedr. Dick offers Rapid Steel as an alternative solution to a sharpening steel. This not only makes re-sharpening easier and keeps the cutting edge sharper for a longer period of time, it also saves time and makes the work flow easier. The easy handling will win you over. A simple drawing motion results in an optimum cutting edge. Thanks to the volume and shape of the sharpening device, there is a reduced risk of injury compared to a standard sharpening steel.

Effective immediately Friedr. Dick is also offering the Rapid Steel made with detectable material - the Detecto Steel HyperDrill. Thanks to the particularly fine features of the sharpening rods,

the cutting edge is smoothed more as the material is worn away. That's why the fine cutting edge that has been produced is maintained for a long time. The high demands of the meat industry in the areas of work safety, quality and hygiene, are met by the Detecto Steel HyperDrill. Detecto Steel can be purchased from retailers.

Friedr. Dick is the only manufacturer worldwide who offers a complete

range of knives, sharpening steels, ancillary items for chefs and butchers as well as grinding machines. The long-standing tradition and experience of manufacturing products for chefs and butchers allow a continuous development of innovative products. Input from customers, especially end-users and own ideas are converted into high quality products.

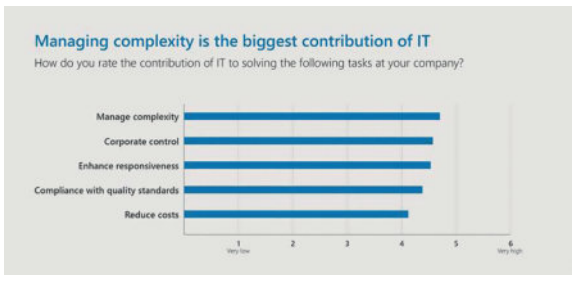
www.dick.de

QUALITY AND DIGITISATION MAJOR FACTORS FOR FUTURE SUCCESS IN THE FOOD INDUSTRY

Increased quality and a greater focus on digitisation in factories are two key trends identified in a recent global survey of 120 decision-makers in the international food and beverage industry.

The research, carried out by food and drink IT specialist CSB-System, revealed that respondents were optimistic about future prospects, expecting the economic situation for their businesses to pick up in the years to come. As part of this, half of them specified quality, freshness and innovations as key drivers in defining product leadership.

Although quality is seen as the biggest driver for success, two thirds of decision makers highlighted prices as the most significant challenge, with many sectors affected by high raw material prices, which are difficult to pass onto the trade or end-consumer.



Legal requirements in terms of food safety, labelling and traceability were also an area of concern, the most recent example at EU level being the regulation on the provision of food information to consumers and the mandatory nutrition declaration. Another important consideration is the requirement among retailers for permanent product availability and prompt response times.

In these circumstances, respondents identified three business areas in particular where there was greatest potential for improvement – sales and marketing, production and intralogistics and information technology. In particular, enhanced IT systems were seen as critical in helping to reduce costs, effectively manage complex operations and improve overall responsiveness.

Looking to the future, the decision makers forecast an increasing focus on both value and sustainability in the food sector. As well as mass market products, high-price segments would also gain in importance, with the combination of cutting-edge technologies and traditional crafts allowing the introduction of a new generation of quality foods elaborately prepared and manufactured.

Hermann Schalk, head of sales at CSB-System, says this trend, together with the need to focus on costs, will lead to the growing importance of effective IT.

"We still expect the downward pressure on prices to persist, therefore cost reductions are necessary," he explains. "This must not adversely affect product quality, which is not necessarily the case. Our experience is that there is plenty of optimisation potential in the processes, mainly through digitisation."

www.csb.com

SENIOR APPOINTMENT ENHANCES CENTRAL AND EASTERN EUROPEAN SUPPORT

Leading packing line solutions specialist Ishida Europe has strengthened its senior management team with the appointment of Robert Kaluza as General Manager, Central and Eastern Europe.

In his new role, Robert will be responsible for the coordination and delivery of Ishida's comprehensive sales and service activities to ensure the highest levels of support for customers throughout the region.

Robert has over 12 years' sales experience and in-depth knowledge of the packaging machinery sector. He joins from Lektronix, a division of Rockwell Automation, where he played a key role in the company's establishment in 2008 and subsequent growth.

"We are delighted to welcome Robert to the team," comments Mike Heffernan, Ishida Europe's Sales Director – Core Products.

"The Central and Eastern Europe region is an important sector for our business and Robert's wide-ranging experience will be invaluable both in supporting our existing customer base and maximising opportunities for our continued success and growth."

www.ishidaeurope.com

EXPANSION OF LINE EXPERTISE MOVES AHEAD RAP-IDLY

MULTIVAC takes over the slicer division of VC999

With effect from 1 De-cember 2017, MULTIVAC Sepp Haggenmüller SE & Co. KG will take over the slicing activities of VC999. Thanks to this further strategically important step in the direction of "Better Processing", the packaging specialist is now in a position to be able to offer complete packaging lines for sliced products such as cheese, sliced meats and ham from one single source.

The slicer division of VC999 is a comparatively young business unit, founded just five years ago as part of the VC999 company, which has been operating successfully for many years in the packaging machine sector. The slicer division manufactures state-of-the-art slicer solutions for use on an industrial scale, which meet the highest hygiene requirements and have a modular design. VC999 has decided for strategic reasons to divest itself of this business unit.

After the takeover has been completed, MULTIVAC will continue to use the current VC999 slicer production site at Buchenau (Dautphetal) as the Development Center and manufacturing location for prototypes. The mass production of slicers will take place at MULTIVAC's headquarters in Wolfertschwenden. Extensive investment for this in a highly modern production site is currently being planned, and this will include a state-of-the-art facility for application technology. With immediate effect, complete slicer lines will also be available at the Wolfertschwenden site for carrying out customer trials.

Slicer lines in all output categories

The acquisition is an important step for MULTIVAC in the slicer sector. It means that MULTIVAC is now able to offer its customers complete slicing and packaging lines in all output categories. To round off the slicer range, MULTIVAC has recently completed further strategic alliances with industrial partners. The BIZERBA slicer portfolio in the smaller output range has been part of the MULTIVAC Group's offer worldwide in recent times, and this range of slicers perfectly complements the Group's portfolio of packaging machines for the production of small and medium-sized batches. In order to meet the requirements in the high-output sector, MULTIVAC will in future market FORMAX slicers from PROVISUR in selected regions.

Worldwide sales and application support

The step into slicing is not new territory for MULTIVAC, since the MULTIVAC organisation has many years of experience in the sales and service of similar products. This will enable the Group to ensure that sufficient sales and service capacity, as well

as a comprehensive supply of spare parts, will be provided for the range of slicers in all the relevant markets. This also applies of course to all the partner products.

Slicer solutions with maximum efficiency

With its entry into the slicer business, MULTIVAC is fulfilling an essential precondition in optimising the degree of slicer integration in automated packaging lines, with the aim of not just reducing the footprint of automatic slicer lines but also increasing the output capability of these solutions. In future all MULTIVAC products, including slicers and loading equipment, will be operated via a unified control platform. The first solutions for the efficient linking of slicers and thermoforming packaging machines were presented by MULTIVAC as far back as IFFA 2015.

wwwmultivac.com

FRONTMATEC TO INVEST IN CHINA

Frontmatec has entered into an agreement to acquire Jining Xinglong Food Machinery Manufacturing Co., Ltd. ("Xinglong"), a leading supplier of equipment to the red meat industry in China. The transaction will provide Frontmatec with market access in China and in addition a local production setup dedicated for the Chinese market. Furthermore, Xinglong will benefit from transfer of advanced technology from Frontmatec.

"We have been in close dialogue with Xinglong for nearly one year, and we are very impressed with the development of the company and the current management team. Xinglong has strong capabilities within the industry and close relationships with the largest customers in China. The acquisition enables Frontmatec to strengthen our market position and to be able to tap into the large growth potential in China."
- Henrik Andersen, CEO

Founded in 2001, Xinglong is a reputable Chinese slaughtering equipment enterprise, offering cost-effective equipment and technologies adapted to livestock and poultry slaughtering in China and other developing countries.


Henrik Andersen


Kristian Madsen

"I am very pleased about the partnership agreement with Frontmatec. I am confident that the envisioned combination of the technologies and know-how of the two companies will lead to a prosperous future"
- Mr. Wang, Founder of Xinglong

China is the world's single largest market accounting for approx. 50% of all pigs slaughtered globally. The market is expected to experience strong growth going forward driven by i) an increased demand for more automated and high speed solutions and ii) an increased focus on food safety.

"This is another big step forward for Frontmatec, and we are happy to welcome Xinglong into the Frontmatec family. I am convinced that both companies can benefit from each other and that the combination will result in a much stronger value proposition towards our customers, which will fuel future growth"
- Arne Vraalsen, Chairman of the board

Going forward, Xinglong will continue to serve the Chinese market from its current base in Jining under its current brand name. However, in order to accelerate the sales of more advanced solutions in China, Frontmatec will support Xinglong with relevant technology and competences.

The completion of the transaction is subject to final closing, which is expected to happen within the coming months.

www.merger.frontmatec.com

A NEW SALES MANAGER AT DETECTAMET

Detectamet is delighted to announce that a new Sales Manager, Leo Wild, has joined the business to expand the sales and distribution of the company's world-famous metal and X-ray detectable plastic equipment and materials.

Leo, a graduate from Leeds University, has a proven track record in selling technology based products and services. "I am looking forward to working with food and pharmaceutical producers and offering a consultative approach to solving their consumer safety challenges."

His role will encompass distributors and end users in the UK and Europe where Leo intends to expand the company's support and customer services.

"The Detectamet sales team is working with me to grow our European customer base and take advantage of the developments of our internal systems and processes" said Leo.

The company's extensive portfolio of detectable products can raise the level of protection from contaminated products entering the market and Leo is looking forward to discussing their potential.

"If no solution yet exists then developing an answer through our innovations team is a challenge I will relish" Leo explained.

He is currently arranging site visits to help reduce the recall risks of existing and new customers around the UK and Europe. Invitations to visit can be sent directly to him at: leo.wild@detectamet.com

www.detectamet.co.uk

ISHIDA ROBOTGRADER AND AIRSCAN WIN AT DEBUT INDUSTRY AWARDS

Ishida Europe's innovative RobotGrader has been named winner of the Robotics Industrial Vision category at the debut of the Gulfood Manufacturing Industry Excellence Awards in Dubai.

The RobotGrader combines weighing and pick and place technologies to grade protein products of varying weight and pack them to a fixed weight straight into a tray. The system reduces giveaway to less than 1% per pack and correctly places and orientate the pieces, at speeds of up to 320 pieces per minute.

By comparison, a manual operation can be a very labour intensive with a single operator only able to pack 30 pieces/min, while overfill can be anywhere from 5% to up to 10%.

The RobotGrader can be incorporated into Ishida fresh food packing lines alongside other Ishida equipment, including X-ray systems, tray sealers, seal testers and checkweighers, to provide bespoke solutions, tailored to individual customer requirements.

Ishida was also able to secure a Highly Commended Award for their revolutionary leak detector, Ishida Airscan, which helps food manufacturers minimise spoilage in pre-packed retail products. Ishida Airscan took the highly commended prize in the Production Protection category.

The Ishida AirScan offers fast, 100% reliable and completely non-destructive identification of leaks of C02 and has been designed to be highly effective in fast moving production environments so that maximum quality can be achieved without compromising on throughput.

The Ishida AirScan is part of Ishida Europe's quality control range, which also includes X-ray inspection systems, checkweighers, weigh-price-labellers, seal testers and vision systems.

"Winning these prestigious awards at the inaugural event are a testament to the hard work and commitment of our team. They've worked hard to protect our customer's brands and develop innovative solutions for the poultry and meat sectors." Comments Jeff Say, General Manager, Ishida Middle East and Africa.

www.ishidaeurope.com

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IPPE 2018 FOCUSES ON INNOVATION, EDUCATION, GLOBAL REACH, AND NETWORKING

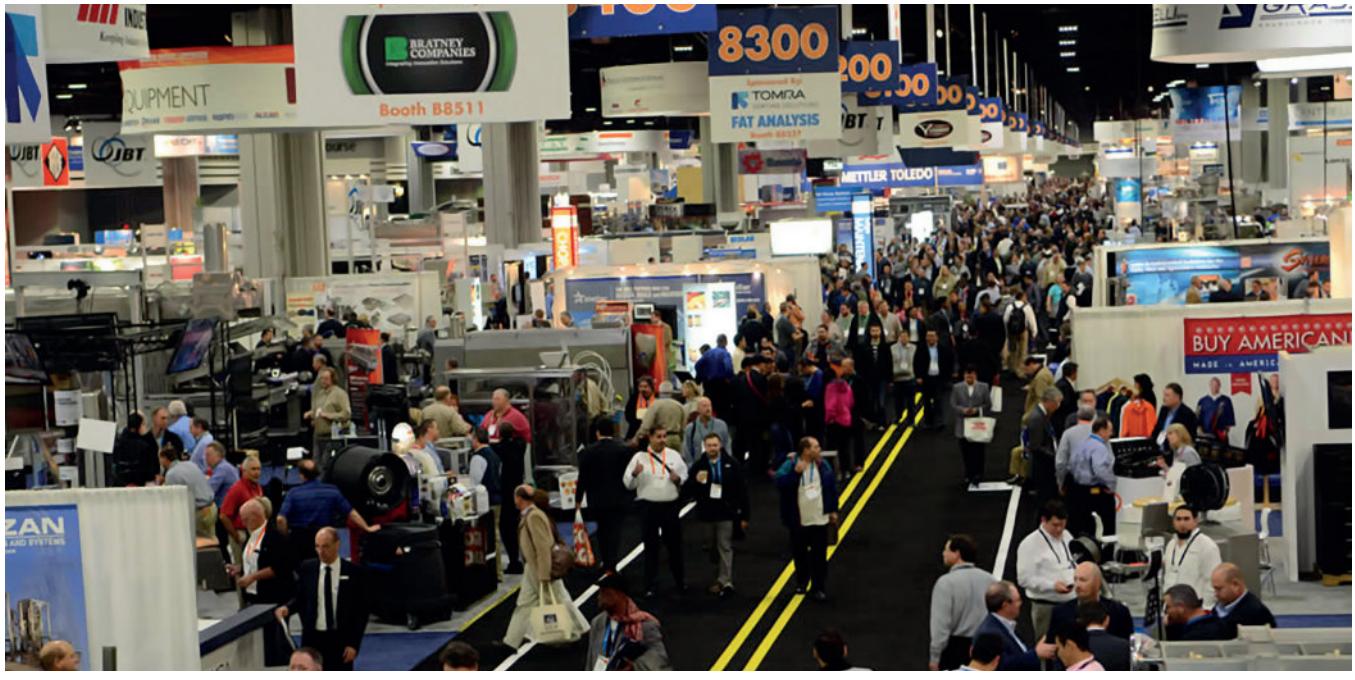
The 2018 International Production & Processing Expo (IPPE) will be held Tuesday through Thursday, Jan. 30 - Feb. 1, 2018, at the Georgia World Congress Centre in Atlanta, Ga. USA.

Made up of the three integrated trade shows – International Poultry Expo, International Feed Expo and International Meat Expo – the IPPE is the world's largest annual feed, meat and poultry trade show. It was recognised by Trade Show News Network (TSNN) as one of the top 25 fastest-growing shows in net square footage.

The event is sponsored by the U.S. Poultry & Egg Association (USPOULTRY), the American FeedIndustry Association (AFIA) and the North American Meat Institute (NAMI).

The expo will bring together more than 1,200 exhibitors and 30,000 visitors. IPPE focuses on Innovation - bringing together buyers and sellers of the latest technology of products and services, Education - learning from the experts in free - and fee-based world-class programs beginning Mon., Jan. 29, on topics that cross industry interests, Global Reach - attracting more than 8,000 International visitors from 129 countries, and Networking - meeting new and rekindling old relationships with leaders across the industries.

The Expo will highlight the latest technology, equipment and services used in the production and processing of feed, meat and poultry products. Combining the expertise from AFIA,NAMI and USPOULTRY,



IPPE will also feature dynamic education programs focused on current industry issues.

Among the show's not to miss highlights is the 10th Annual Animal Agriculture Sustainability Summit.

Reflecting the continuing importance of sustainability to the future of animal agriculture, the summit, sponsored by the U.S.Poultry & Egg Association (USPOULTRY), will focus on current sustainability topics relevant to the animal agriculture industry. This half-day program will be held Tuesday, Jan. 30, 2018,

and is free for all registered IPPE attendees.

Topics to be discussed include: A Review of Top Sustainability Concerns for the Animal Agriculture Industry; Meeting Growing Global Pork Demand Sustainably; U.S. Roundtable for Sustainable Beef:Gaining Momentum; Advancing Dairy's Sustainability Framework for a Changing Global Landscape; A Broiler Production Model for Estimating Environmental Footprint; and a panel discussion. The summit will conclude with a ceremony announcing the winners of USPOULTRY's Family Farm Environmental Excellence Awards for 2018.

IPPE Atlanta USA

www.ippexpo.org

BOOST EARNINGS WITH PRECISE WEIGHING AND BATCHING

Revolutionary food weighing technology reduces give-away by a factor 10 when it comes to weighing and box packaging of large batches

Imagine if you could implement a solution in your production that could perform automatic high speed weighing and batching of large portions, and at the same time reduce your give-away and labor costs significantly...

Introducing the Cabinplant Multibatcher, one of the world's most efficient and innovative weighing and batching solutions for box packing. With efficient high speed combinatorial weighing and handling of portion sizes up to 30 kilos, the Multibatcher can easily process complex and demanding tasks.

Efficient and Innovative

Cabinplant's Multibatcher is the first batcher based on combinatorial weighing. Compared to other conventional batch systems, the fully automatic Multibatcher performs accurate combinatorial weighing at high speed and can handle large portion sizes of products such as e.g. whole pelagic fish, meat or meat byproducts.

The Multibatcher automatically weighs raw material into partial portions, which are then combinatorily selected to create the optimum batch weight. The principle of combinatorial weighing, also known from Cabinplant's successful screw feeding multihead weigher, results in higher accuracy.

The Multibatcher can process up to 20 batches per minute (depending on product and portion size) ensuring automatic, consistent and reliable handling of your raw material, 24/7, all year. The solution is tailor-made to your specification and can be fitted into existing packing lines

or used as a stand-alone unit. The Multibatcher is suitable for all kinds of small or large products including meat, poultry and fish products.

Hall C
stand 1932

www.cabinplant.com

MAREL POULTRY AUTOMATES PROCESSES AT IPPE

Marel Poultry booth will present many innovations to the American poultry industry, with a focus on the automation of poultry processing operations which depended upon ma-nual labor until now.

At Marels's booth visitors can learn about the entire range of Marel Poultry processing solutions, from live bird handling up to packing and labelling.

Automated Nugget Line

Marel's focus will be on their newest solution for automated whole muscle nugget production. The integrated system consists of an I-Cut 122 which cuts strips, discharged by a SpeedSort. Next in line is the SingleFeed to singulate the strips. The brand new StripPositioner rotates incoming strips and tenders 90 degrees and spaces them appropriately so they are in the perfect position for the second I-Cut 122. This portion cutter will then take care of optimised nugget portioning. This automated cubing solution is truly "A Cut Above" and saves considerable labour.

AMF-i Intelligent Breast Filleting

Special attention will be given to the Stork AMF-i intelligent breast filleting solution. The Stork AMF is a well proven solution with hundreds of installs worldwide, among whom several leading processors in the USA. The latest AMF-i generation is a flexible filleting system which consistently produces high yield. To make life easier for poultry processors, Marel Poultry has added even more intelligence to the process. Processors no longer have to manually select a product size related recipe, as module settings adjust themselves automatically to the measured product dimensions.

ATLAS Live Supply

Marel Poultry will also have on display, for the first time in the US, the Stork ATLAS live bird handling system. The technologically advanced SmartStack module not only gives high attention to animal welfare but also increases efficiency considerably. At their booth, the ATLAS system will be combined with a CAS SmoothFlow controlled atmosphere stunning application. This accentuates the harmonious integration of both solutions, lifting animal welfare to even higher standards without any human intervention, nor any animal distress. ATLAS is therefore one of the most humane live bird supply systems in the world.

Thigh Deboning

Another highlight of Marel poultry at IPPE is the Stork Thigh Fillet System. This unique, fully inline solution produces deboned thigh meat with or without skin. It is the world's fastest thigh filleting system ensuring maximum thigh meat harvesting with minimum residue around the bones and knee cap. By mimicking skilled manual cuts, the Thigh Fillet System succeeds in delivering consistent re-sults with retail quality, without any human operations needed.

Hall B
stand 4331

www.marel.com

NEW NOCK HORIZONTAL - VERTICAL - CUTTER

The new NOCK CB 435/4E HVC HORIZONTAL-VERTICAL-CUTTER is equipped with a horizontal band blade and a cutting shaft with vertically placed circular blades. It provides one horizontal cut plus vertical cuts but also only

the horizontal cut or also only the vertical cuts. The operational width is 370 mm (horizontal cutting unit) resp. 300 mm (vertical cutting unit). The throughput speed steadily is 18 m/min. The new, very compact machine is ideally appropriate for cutting strips ("Geschnetzeltes") or thin schnitzels from chicken breast or turkey meat.

Hall C
stand 1357

www.nock-gmbh.com

LIMA : QUALITY IN SEPARATION AND DESINEWING AT IPPE 2018

LIMA is showcasing its new developments in quality in separation and desinewing at IPPE 2018!

Among the recently developed models:

RM 400 DDSM

The NEW LIMA RM 400 DDSM with specific hopper and anti-bridging arm extends the range of LIMA DDM/DDSM deboners - desinewers.

Among its typical applications are:

Desinewing poultry, beef , pork meat or producing high quality structured meat out of poultry carcasses or fish.

Capacity :

• Beef or pork trimmings : 1 500 - 2 000 kg/hr. (3 300 - 4 400 lbs/hr.)
• Chicken trimmings : 1 200 kg/hr. - 1 500 kg/hr. (2 650 - 3 300 lbs/hr.)
• Chicken carcasses : 2 000 - 3 000 kg/hr. (4 400 - 6 600 lbs/hr.)

Many customers in Europe and overseas are already taking benefit of the high quality recovered meat from LIMA DD / DDS technology. They also enjoy the very simple yield adjustment and short down time for cleaning. This range of deboners - desinewers known as "DD / DDS" have a capacity of 100 kg/hr (220 lbs/hr) up to 10 000 kg/hr (22 000 lbs/hr), and have all the benefits that can be expected from the Quality in Separation, such as :
- No extra pre breaking or pre grinding
- Low temperature increase
- Low calcium content
- High quality desinewed meat at high yield
- High quality textured deboned meat similar to minced meat etc.

Another major NEW model, the RM 2000 S is now the biggest meat-bone separator available on the market, up to 20 000 kg/hr (44 000 lbs/hr).

Hall B
stand 5219

www.lima-france.com

GEA FOCUSES ON EXCELLENCE AT EVERY STAGE OF FOOD PROCESSING AT IPPE

At the International Production & Processing Expo (IPPE) in Atlanta USA from January 30 – February 1, 2018, GEA is showcasing excellence at every stage of food processing – from adding value to products during preparation to packaging end products. This edition of one of the meat and poultry processing industry's most important trade shows focuses on innovation and it is used to make businesses more successful. The company is showing the GEA MultiJector injection equipment, the GEA MultiDrum suitable for fully automated 'homestyle' coating and the GEA DeltaPak thermoformer. Next to that GEA puts the CookStar under the spotlight on its silver anniversary.

Shaping the World of Food

Every food product begins with an idea. Taking this idea from concept to reality is a journey that starts with raw materials and ingredients, and ends with a delicious product. At every stage along the way, GEA guides food processors to a perfect end-result. The company

does this by sharing equipment knowhow, process experience and applications expertise, and IPPE is an ideal platform to meet and talk to customers from all over the world.

From Small Business to Multinationals

Whether you are an independent business or a multinational food processing chain, GEA supports in delivering perfect meat and poultry products. The GEA DeltaPak, for example, is an amazingly versatile and powerful thermoformer on a small footprint. It brings the quality and flexibility of the well-known GEA PowerPak family within reach of a wider group of users.

Thermoformer GEA DeltaPak

Unlock New Markets With Homestyle

The GEA MultiDrum takes an innovative approach to capturing the taste, bite and look of homestyle coating, a process that was extremely difficult to reproduce on an industrial scale. It has won worldwide acclaim and awards, by its savings on labor, flour and it offers the chance to produce high quality products at capacities up to 15000 pounds per hour. In addition, GEA MultiDrum has unlocked new markets for many processors.

Maximum Versatility Without Compromise

The GEA MultiJector is a multi-purpose brine injector that does not compromise on the accuracy or performance that is usually only possible with an application-specific machine. It is as equally suited to injecting bone-in and boneless products as it is injecting delicate products, and is packed with cutting-edge technology to ensure optimal brine distribution.

GEA MultiJector

Passion, Performance and Reliability

When it comes to cooking, steaming, roasting, browning and smoking, GEA CookStar has helped processors already for more than 25 years – and the machine that changed the way the industry cooks is still innovating. It has evolved into a three-phase cooking solution that provides a controllable cooking environment to maximize yield. Its winning formula is based on the passion for cooking from the GEA application specialists who support it, the performance it delivers and the unparalleled reliability, proven by a global installed base of over 400 machines.

IPPE Hall C stand 555

www.gea.com

NEW DEVICE FOR MEASURING PERFORMANCE OF STUNNING TOOLS

Accles & Shelvoke Ltd have introduced a new device for measuring the stunning performance of their CASH® stunning tools.

The all new CASH® Captive Bolt Stun Check by Accles & Shelvoke measures the precise velocity of the captive bolt of their range of CASH® penetrative stunning tools.

Animal welfare concerns and legislations around animal slaughter, especially in Europe and North America, demand that the stunning equipment are regularly checked to ensure their compliance. The new stun check device measures the precise velocity of the captive bolt within specified tolerances. The check ensures that the stunning tools are working efficiently and effectively every time, and are compliant with the legislations.

Speaking about the new device, Accles & Shelvoke's General Manager

Joe Holland said:

"The legislations around the use of stunning tools are improving all the time, and we want to assure all our customers that our tools are compliant.

"The new stun check device supports all our existing penetrative stunning tools range and produces measurable data for the requirements of an animal welfare audit."

The CASH® Captive Bolt Stun Check comes with a choice of adapter for the CASH® stunning tool to be tested, and is pre-programmed to be used straight out of the box. Additional adapters are available for users with more than one CASH® stunning tool.

The device is designed to be used wirelessly via Bluetooth with a tablet and PC, and is provided with an Android tablet pre-loaded with the compatible software and Microsoft Windows compatible PC software; both pre-configured for the CASH® Stunning Tool of the user's choice.

The stun check measures the upper and lower velocity limits of captive bolt. Besides record keeping for audit, the results also indicate to the user if the tool needs replacement parts or service.

The test results include name and serial number of the tool, cartridge specifications, operator name, date and time of the test etc. to produce a comprehensive data for audit, which can be saved and shared in MS Excel spreadsheet format.

IPPE Hall C stand 511

www.acclesandshelvoke.co.uk

STEEN SHOWCASES FURTHER DEVELOPMENTS AT IPPE 2018

Further developments ST840 pirzola machine

After the development of the ST840, further innovation was invested in this current model as more possibilities with the machine were close by. Changing some minor things on the initial design, the machine is now easily converted to deboning machine as guides can now easily be set and removed to create this possibility. Thanks to this, the machine can be easily converted into a deboning machine for anatomical cut thighs, drums and prime wings.

Along with the actual purpose of making pirzola, partially deboned thigh,from anatomical cut thighs, by rethinking the system, more possibilities were added. Here, different spacers can be used to determine how much you want to retract the meat on the bone. The major advantage, that was created with this possibility,is that the anatomical cut prime wings can now be turned into a so called "tulip" where the meat is pushed down the bone as the bone remains undamaged. This also means, that drums can be transformed into this similar product.

More flexibility on the ST850 turkey deboner

Due to the needs of several customers, the ST850 was adjusted to give more flexibility towards the product. This deboning machine for anatomical cut thighs, drums and prime wings from male of female birds (left or right side), is able to debone all the above named parts with a minimum adjustment with a capacity of 35 pieces per minute. Keeping in mind, that a very large weight range can be deboned on the same setting, the demand came to debone thighs and drums at the same time. Therefore, the pistons are now as standard implemented in the machine where the possibility of processing these thighs and

drums from certain sizes on the same general setting is possible. However, that each unit will be designated for its specific part, the time that can be saved in the production flow is significant.

Hall C
stand 1205

www.steen.be

QUESTIONING DETECTABLE PLASTICS

"Over the past 20 years producing and manufacturing detectable plastics products, companies like ours have been challenged by customers and potential customers with a whole library of questions"
says Sean Smith the Chairman of Detectamet.

How do you make plastics detectable?

"We have a special, unique polymer that we developed by including fine food safe elements that raise the levels of metal and density of the plastic so that pieces of the plastic can be identified by standard Metal Detection Systems and X-ray Inspection."

How can I find the plastic if it gets in my food products?

"If ingredients are contaminated by detectable plastic they can be found and removed by magnet extraction systems. If pieces contaminate in-process or finished product then metal detectors or X-ray systems in common use identify the contaminant and reject the material into the reject bin."
Sean explained

How detectable is your detectable plastic especially the smaller pieces?

"I know that lost plastic tools can go through the crushing and grinding machinery of food production and these shards have to be found." "That is why" said Sean "We us a patented manufacturing system that is designed to ensure detectability in all parts of the material so that even the smallest significant pieces can be detected."

"I cannot give a 100% guarantee of zero risk but the smallest undetectable pieces are likely to be under the threshold of threat to the consumer." Sean assured us.

Is the plastic "food safe"?

"We realised at the beginning that the products made from detectable plastics include items that are designed for continuous contact with food and it would be essential that the materials used had to be assessed and passed as safe for food contact. Even the products not intended for contact comply with FDA and EU (EN1935:2004) standards for plastics in safe contact with food"
The Chairman confirmed.

How much of my plastic equipment and materials can I specify as detectable?

"It is straight forward for food producers to start with a plastics audit to identify what plastic products and therefore potential contaminants they use in the process area. I have done this for several companies and found dozens of items in regular use." Sean explained "We now make hundreds of individual tool and equipment designs from detectable plastics. From protective clothing to stationary and tools to cleaning equipment there is a huge choice. "

"If you cannot find it I will apply my many years' experience in plastics to make it for you. Hard, resilient plastics or soft shock absorbent plastics can all be turned into detectable versions that are much less likely to trigger a costly recall."
He assured us.

What next?

Detectamet's Chairman went on to explain that food producers often consider that introducing detectable plastic equipment into their food processing environment would be a straight forward swap. Old style ordinary plastic items removed and replacement detectable items handed out. But is it?

They want detectable plastics to

help them to fulfil their certification obligations to demonstrate how they manage to prevent contaminated products reaching the consumer. Can they be sure it will?

Using detectable plastic equipment is good but can they demonstrate to the third party inspection team that it will work? Suppliers like Detectamet can provide technical documentation and trial reports that detail the results of tests of the detectable plastics.

These documents are guides to the materials performance but there are so many variables that may change the results that users need to confirm the detectability by carrying out tests using their own machines in their own processing plant and using the material's in which the contamination may be found.

Sean explained that some of the most common variables are:

The type of product:

Dry products are more likely to yield a more sensitive results compared to wet products where the product can affect the ability of the detectors to identify the contaminant. Detection equipment is adjustable for such variations.

Size of contaminant:

Undoubtedly bigger pieces are easier to find, but the key factor is the minimum dangerous size. Even pieces of metal below a certain size are deemed to be of little danger. The FDA for example considers a product adulterated if it contains a hard or sharp foreign object that measures over 7 mm (¼") in length. The objective should be to protect all consumers, be they infants or adults from the dangers of cuts, dental damage and choking caused by the contaminant.

Density:

This factor is of greater significance to X-ray inspection where plastics of low density cannot be easily identified. X-ray detectable plastics contain additives to raise their density beyond the minimum detection level.

Packaging:

The nature of the product packaging can affect the performance of the detection machine.

Speed and orientation:

If the contaminant passes through the system 'sideways' the detection signal will be lower than if it passes through 'lengthways' and this can be exaggerated by a faster line speed.

Detector settings:

Some of the previous variables can be offset by the adjustment of the Detector settings and where a variety of products are tested on the same equipment the settings can be saved and then activated when required.

Sensitivity and age of the machine:

The designers and manufacturers of metal and X-ray detection systems have made many improvements over the past 20 years. These have achieved a reduction in the significance of the variables. Dual head systems for example allow examination that will cover two types of packaging. Multiple head inspection at different angles can address orientation issues and improved control of frequencies increase sensitivity.

Now that you know detectable plastics will work in your processing system as readily as it works in thousands of food businesses around the world it is important to ensure it keeps working.

An essential part of that management process is to establish and maintain a program that tests the system. This would include tests at the start of the day or the next shift and the return from a comfort or meal break. The change over to a new batch or a new product would probably require a resetting and a testing of the system.

Detectamet for example is able to supply a complete range of certificated test and calibration pieces with a variety of possible contaminants. The specific recommendations of test pieces to use are provided by the equipment supplier.

"I believe that we produce a range of detectable products that can reduce food manufacturers' risk of incurring expensive recall costs and loss of credibility with retailers and consumers"
Sean Smith concluded.

Thank you very much.

IPPE Hall B stand 6458

www.detectamet.com

PREVENT THE FORMATION OF NITROSAMINES DURING BACON BAKING MANUFACTURED WITH A BLEND OF NATURAL COMPOUNDS

Introduction

There have been considerable concerns over the safety of nitrate and nitrite in foods. Measures have been taken to reduce the amounts of nitrate and nitrite used during meat curing processes owing to concern over the formation of nitrosamines. Although, nitrate is largely unreactive but can be reduced to nitrite, which can then react with secondary amines to form nitrosamines (many of which are carcinogens) (Dennis and Wilson, 2003). N-nitrosamines (NA) may be formed during production and storage of nitrite preserved meat products. The group of NA includes both the so called volatile NA (VNA) and the non-volatile NA (NVNA).

Nitrosamines are chemical substances with strong toxic, mutagenic, neuro- and nephrotoxic and carcinogenic effects. Dimethylonitrosamine (DMNA) and diethylonitrosamine (DENA) have the strongest toxic activity.

Objective

Compare the potential nitrosamine formation in two different types of cooked bacon. One bacon was made using nitrite (150 ppm) and the other one was produced without nitrite addition using NATPRE T-10 CUR RME, a PROSUR product that is based in fruit and spice extracts with high content of polyphenols.

Material and methods

Bacon processing

Figure 1. Raw bacon. Raw pork bellies were purchased from a local supplier. The bellies were injected to 15%. See table below with the brine formula (Table 1).

Ingredients (%)	Nitrite sample	Clean label sample
WATER	84,06	77,76
PRS-PHR	2,30	2,30
NITRITED SALT (15% E-250)	0,77	---
SODIUM ASCORBATE	0.6	---
NATPRE T-10 CUR RME	---	7,67
SALT	12,27	12,27
	100,00	100,00

Table 1. Brine formula

Ingredients (%)	Nitrite sample	Clean label sample
PRS-PHR	0.3	0.3
NITRITED SALT (15% E-250)	0.1	---
SODIUM ASCORBATE	0.08	---
NATPRE T-10 CUR RME	---	1
SALT	1.6	1.6

Table 2. The dosage of each ingredients in the bacon after injection.

Determination of nitrites, nitrates and nitrosamines

The samples were sent to Barcelona´s Health Agency Lab (Barcelona, Spain), which is a laboratory accredited under UNE EN ISO 17025 scheme for nitrite, nitrate and nitrosamine analysis in meat products. For the determination of nitrites and nitrates, liquid chromatography and conductivity detector were used. For the determination of nitrosamines, gas chromatography and mass spectrometry detectors were used (GC-MS-MS)

Bacon tumbling and smoking

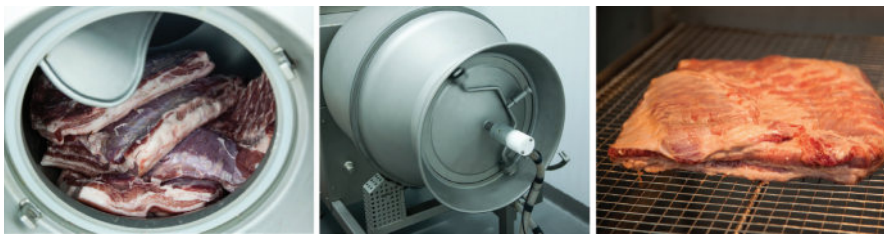


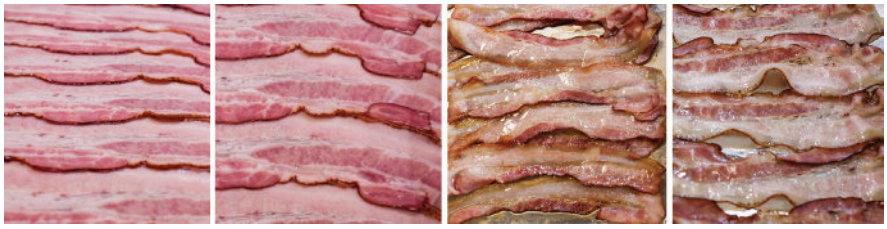
Figure 2. The injected bellies were massaged for 2 hours at 12 rpm. Finally, the bacon was smoked at 65 ºC core product.

Bacon sampling and baking

Figure 3. A 250 g. representative samples (see Table 3 below) of the sliced bacon was baked for 6 min with turning every 2 min, at a calibrate temperature of 170 ºC in a preheated Eurast Forn Nou HC 611 electric oven.

MC1	Raw bacon with nitrite	MC3	Baked MC1 Bacon
MC2	Raw bacon with NATPRE T-10 CUR RME	MC4	Baked MC2 Bacon

Table 3. Meat matrix



MC1 MC2 MC3 MC4

Figure 4. Samples were retained for different analyses.

Results and discussion

Table 4 shows the content of nitrite and nitrate of raw bacon samples. The content found in MC1 (with nitrite) sample was similar to that found by other authors in cured meats such as ham and salami, where nitrite and nitrate were used as a permitted additive: concentrations of about 10–30 mg/Kg of nitrate were found. However, the content of nitrites and nitrates of MC2 (NATPRE T-10 CUR RME) sample was similar to those found in fresh meat, which normally contains low levels of nitrate and nitrite, estimated at < 4–7mg/Kg and < 0.4–0.5 mg/Kg, respectively (Dennis and Wilson, 2003).

Nitrate is a normal component of plant tissues, whereas nitrite is not normally found in significant quantities unless microbiological spoilage occurs (Dennis and Wilson, 2003). Nitrite is preferred as a curing agent, as it reacts more quickly than nitrate, and less is required for colour stabilization, but nitrate may be added to act as a reservoir in case the nitrite level is depleted during curing. Both nitrate and nitrite are permitted food additives for use in curing meat.

Table 5 shows the NA content of samples. Only the MC3 (with nitrite treatment) sample present NDMA (0.0011±0.0002 mg/Kg) one of the most dangerous nitrosamine, while the MC4 (NATPRE T10 CUR RME treatment) sample did not present any NA. The results obtained are coherent, because the sample MC3 contained nitrites/nitrates in its formulation, while the sample MC4 did not contain nitrates/nitrites.

The levels of NDMA obtained in MC3 samples are similar to those obtained by other authors. Concretely, N-Nitrosopyrrolidine (NPYR) (Crosby et al., 1972; Fazio et al., 1973) and to a lesser extent N-nitrosodimethylamine (NDMA) have been found consistently in fried bacon at the ppb level (Pensabene et al., 1979). Furthermore, the levels of NA in nitrite preserved meat products varies greatly, from below detectability (<1µg/Kg) to levels in the order of thousands µg/Kg, depending on the type of NA. In particular, the NVNA are found in high amounts (Herrmann et al., 2015).

The NA is a large group of compounds of which the majority is carcinogenic (IARC, 1978). The VNA are generally potent carcinogens (e.g. N-nitrosodimethylamine (NDMA) and N-nitrosopyrrolidine (NPYR)) (Herrmann et al., 2015). There are numerous studies that confirm the carcinogenic capacity of NDMA. When Zhu et al. (2014) studied the association between dietary volatile N-nitrosodimethylamine (NDMA) intake and colorectal cancer (CRC) risk (1760 cases and 2481 controls) and they found that dietary NDMA intake was significantly associated with a higher risk of CRC.

Conclusion

The results of this trial show that it is possible to produce a baked bacon with a perfect quality and colour without the use of nitrite salts. The bacon that was treated with Natpre T-10 CUR RME does not contain nitrite before cooking and, more importantly, does not contain carcinogenic nitrosamines after oven cooking.

Prosur offers the perfect solution using natural fruit and spice extracts instead of nitrosamines. Natpre T-10 CUR RME is a 100% natural product that can be labeled as natural flavour on clean labels.

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	MC1 (with Nitrite)	MC2 (NATPRE T-10 CUR RME)
Nitrites (E-249, E-250)	63 ± 8 mg NaNO2/Kg	< 10,0 mg NaNO2/Kg
Nitrates (E-251, E-252)	24,1 ± 3,1 mg NaNO3/Kg	< 20,0 mg NaNO3/Kg
DL: Nitrates (E-251, E-252) ≥20,0 mg NaNO3/Kg; Nitrites (E-249, E-250) ≥10,0 mg NaNO2/Kg		

Table 4. Nitrite and Nitrate content of the raw meat matrix determined by liquid chromatography and conductivity detector.

NA	MC3 (with nitrite)	MC4 (NATPRE T-10 CUR RME)
NDMA	0,0011±0,0002 mg/Kg	< 0,001 mg/Kg
NMEA	< 0,001 mg/Kg	< 0,001 mg/Kg
NDEA	< 0,001 mg/Kg	< 0,001 mg/Kg
NDPA	< 0,001 mg/Kg	< 0,001 mg/Kg
NDBA	< 0,001 mg/Kg	< 0,001 mg/Kg
NPIP	< 0,001 mg/Kg	< 0,001 mg/Kg
NPYR	< 0,001 mg/Kg	< 0,001 mg/Kg
NMOR	< 0,001 mg/Kg	< 0,001 mg/Kg
NDPhA	< 0,002 mg/Kg	< 0,002 mg/Kg
NDMA + NDEA	< 0,002 mg/Kg	< 0,002 mg/Kg

Table 5. NA content of the meat matrix determined by gas chromatography and mass-mass spectrometry detectors (GC-MS-MS).

Dr. Juan de Dios Hernández, PhD (chemistry), is the CEO of Prosur. With 25 years of experience in food industry in the fields of food production, applications and R&D of bioactive compounds of plant extracts, he provides clean label solutions to replace nitrites, phosphates and sulphites in fresh and cooked meats.

Dr. Pascuala Vizcaíno, PhD (chemistry), is a specialist in the area of chromatography. She has an experience in R & D focusing on the characterization of bioactive compounds by different analytical techniques.

Dr. Isidro Guillén, PhD (chemistry), is R&D manager at Prosur. He has 20 years of experience in the food industry in the fields of bioactive compounds of plant extracts, food safety, QA and food regulations.

Dr. Marta Sánchez, PhD (biology), is a specialist in microbial inhibition by non-thermal treatments. She has more than six years of experience in the field of food microbiology.

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References:

• Dennis, M.J., Wilson, L.A. (2003). Nitrates and nitrites. Central Science Laboratory, Sand Hutton, York, UK4136- 4141.

• Herrmann, S.S., Granby, K., Duedahl-Olesen, L. (2015). Formation and mitigation of N-nitrosamines in nitrite preserved cooked sausages. Food Chemistry, 174, 516–526.

• Pensabene, J.W., Feinberg, J.I., Dooley, C.J., Phillips, J.G., Fiddler, W. (1979). Effect of pork belly composition and nitrite level on nitrosamine formation in fried bacon. J. Agric. Food Chem., 27(4), 842-845.

• Zhu, Y., Wang, P.P., Zhao, J., Green, R., Z., Sun, Roebothan, B., Squires, J., Buehler, S., Dicks, E., Zhao, J., Cotterchio, M., Campbell, P.T., Jain, M., Parfrey, P.S., Mclaughlin, J.R. (2014). Dietary N-nitrous compounds and risk of colorectal cancer: a case–control study in Newfoundland and Labrador and Ontario, Canada. British Journal of Nutrition, 111, 1109–1117.

EMYDEX INSTALLED IN IRELAND'S LARGEST PIG PROCESSOR

Rosderra Irish Meats Group is the largest pork processing company in Ireland. The group processes over 1.5m pigs per annum across their two state-of-the-art processing facilities at Edenderry, Co. Offaly and Roscrea, Co. Tipperary. In addition, Rosderra have a specialty Meat Ingredients facility in Clara, Co. Offaly, a Pork-Curing facility in Jamestown Co. Leitrim, and a Cooked Meats facility in Stradone, Co. Cavan.

Rosderra approached Emydex in 2015 with a view to replacing their existing traceability and production control systems operating across the group that were approaching end-of-life. After winning a competitive tender process, Emydex was awarded the contract to supply a new factory floor data capture IT solution that operates door-to-door across the group's four main operating plants. All production processes were to be covered including weighbridge integration, lairage, grading, primal deboning, further processing, packing, order picking and dispatch, as well as stock, yield management and traceability reporting.

Split into eight distinct project phases, the project also included implementation of Emydex's Cold Store system into Rosderra's Cold Store facility in Jamestown, as well as tight integration to third party warehouse management systems operating in external cold stores utilised by Rosderra's production plants.

As part of the initial project phases, Emydex worked with Rosderra's IT integration partner to build robust interfaces to the group's SAP system. Integration points were built using AS2 and XML transfer files to allow Emydex to pull products, materials and customer files from SAP, as well as Customer Sales orders destined for both Rosderra production sites as well as 3rd party cold stores, and later to send updated Stock data back to SAP for stock valuation and available-to-promise purposes.

After completing the roll-out of Emydex's Packing and Warehouse Management systems to Rosderra's four operating plants in early 2016, the focus shifted to the Boning Hall operations in both Edenderry and

Roscrea. These project phases included implementation of Emydex's boning hall systems for cutting, boning, further processing, Yield Control. Yield Reporting from Emydex includes Carcass chill loss, Cutting yield, chill loss/cutting summary and Boning Hall yield reports.

Presently the project is in final phase, that covers the Abattoir operations at both Edenderry and Roscrea including a centralised slaughter plan and livestock appointments system, weigh-bridge integration, lairage bookings, bulk sequencing as well as detained and pig grading stations. Reporting will include a real-time slaughter line monitor program that will accurately display the status of the slaughter with analysis by lot. Slaughter line analysis can be displayed in both tabular and graphical reporting formats.

Commenting on the project, David McMahon, Emydex CEO said "we are now well into the final stages of a two-year Emydex systems roll-out across the Rosderra group, covering door-to-door processes as well as integrations to back-office ERP, 3rd party cold stores and suppliers as well as factory floor machinery. Looking back over the two years, the project has run smoothly. Both the Emydex and Rosderra project teams worked well together, to plan and deliver each project phase on schedule and without any major disruption to operations. Rosderra are now I believe reaping the benefits of having a robust factory floor data capture Production control system installed, with Emydex providing group and plant managers and supervisors with real-time and accurate reporting on their Production Yields, Stocks and Traceability."

Louis Ennis, Rosderra Group Finance and Emydex project sponsor, added "Rosderra Irish Meats Group chose Emydex as an end to end solution to replace our legacy system. The installation which is currently on-going will be completed over multi phases across multi sites, with all implementations running smooth and minimum disruption to the business. The first implementation was the warehouse and packing modules and through added interfaces with our ERP system brought immediate benefit to the business through greater visibility on orders, improved data validation and reduced administration especially around our cold store loads where manual input has been greatly reduced. Overall the system greatly improved real time information and offers ease of use and improved flexibility when making changes"

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THE PSYCHOLOGY OF FOOD WASTE

By Jessica Aschemann - Witzel

Consumers clearly do not like to waste food – consumer studies repeatedly show how consumers feel uneasy and guilty about food waste, and regard the waste of food as unethical in the light of hunger and malnutrition in other parts of the world 1. In particular, consumers appear to dislike that wasting food shows they have been using their money and the products they have bought unwisely and un-economically2. Yet, studies estimate that around 10-to 30 % of a household´s food purchases end up in the bin in one form or other3. Which are the reasons for this, and what can business in the food sector do to contribute to solutions tackling consumerrelated food waste?

Jessica Aschemann-Witzel

Factors causing consumerrelated food waste

Consumer-related food waste is caused by the complex interaction of factors which play a role in today´s food and eating choices in households. Food plays a number of roles – more than nutrition and health, it is part of a social interaction and used to express identity, status, preferences, and lifestyle. Food has to be chosen, purchased, stored, prepared, eaten and discarded. Through literature research and expert interviews, six factors have been identifid as the most crucial ones, for both the consumer as such and his or her surrounding 4:

Firstly, consumers need to be motivated in some way or other to avoid wasting food. Most consumers are, but might not be aware of the extent of the negative consequences that food waste has, or how much they actually waste themselves. Secondly, consumers very often lack capabilities and skills of managing food – not knowing how best to store fruit and vegetables, how to assess whether food past the date label is edible, and which would be a creative idea to cook a delicious new meal from leftovers. Thirdly, there are a lot of conflcts between the different goals consumers have in relation to food: they might buy an abundancy of fruits to ensure they eat their 'fie a day' even though part is wasted, prioritize spontaneously going out for dinner instead of following the meal plan, or rather discard leftovers if they know the rest of the family will be more thankful when served something new and exciting. Without an extra portion of food management skills, these conflcts likely lead to placing food in the bin. Fourthly, in the consum ers surrounding, there are situational factors which ultimately can cause food

waste in the household – as for example the lack of small packaging units for single households, or the existence of 2-for-the-price-of-1 offers. Fifth, there is also a social context which can cause food wastage, as for example the unwritten norm that there should be an abundancy of food offered when inviting guests, or that it appears rather 'cheap' or 'stingy' to ask for a 'doggy bag' to take home the plate remains in a restaurant. Sixth and last, the macroenvironmental context entails factors that have been related to food wastage – as for example strict food safety laws, or the low price level of foods overall.

Potential solutions to consumerrelated food waste

Food sector business can and are already engaging in a number of initiatives which can contribute to tackling food waste at the consumer level. Potential directions which have been derived from literature research and expert interviews are the issues of date-labelling understanding by consumers, consumer expectations of exaggerated 'optimality' of foods, or improving consumers food management capabilities. Retailers and producers can work on the price strategies that they employ, innovate packaging solutions and collaborate with the supply chain5. Cases of such actions can be found across the whole of Europe6.

Some examples are given below:

A range of Danish retailers have begun to systematically use price reduction on any food approaching the date of the date label or being 'suboptimal' in any other way, while also communicating the food waste avoidance entailed in buying the food item. It appears that 9 out of 10 items are sold on the same day, customers become familiar to the approach, and built-in checking for such offersinto their food purchase routines7.

In addition, initiatives have been founded which deal with redistribution of foods which cannot be sold or have become suboptimal – as commercial alternative retailers such as the German Milchwerk, as not-for-profi foodbanks such as the Italian Last Minute Marketing, or as bottom-up student activities such as the Swedish Food Rescue project8 which organizes events and parties 'fuelled' by the leftover foods from the supply chain. Alternative ways of tackling the issue of food waste is to create new foods through new additions to the business or start-up

1 Evans, D. (2014). Food Waste: Home Consumption, Material Culture and Everyday Life. London and New York: Bloomsbury Academic. Graham-Rowe, Ella, Donna C. Jessop and Paul Sparks (2014), Identifying motivations and barriers to minimising household food waste, Resources, Conservation and Recycling, 84 (0), 15–23. Parizeau, Kate, Mike v. Massow and Ralph Martin (2015), Household-level dynamics offood waste production and related beliefs, attitudes, and behaviours in Guelph, Ontario, Waste management, 35, 207–17. Watson, Matt and Angela Meah (2013), Food, waste and safety: negotiating conflcting social anxieties into the practices of domestic provisioning, The Sociological Review, 60 (2), 102–20.

2 Aschemann-Witzel, J., Jensen, J. H., Jensen, M. H., & Kulikovskaja, V. (2017). Consumer behaviour towards price-reduced suboptimal foods in the supermarket and the relation to food waste in households. Appetite, 116, 246–258. https://doi.org/10.1016/j.appet.2017.05.013

3 Universität Stuttgart (2012), Ermittlung der weggeworfenen Lebensmittelmengen und Vorschläge zur Verminderung der Wegwerfrate bei Lebensmitteln in Deutschland. ISWA, Stuttgart. WRAP (2012), Household Food and Drink Waste in the United Kingdom 2012: Final Report.

4 Aschemann-Witzel, J., Hooge, I. de, Amani, P., Bech-Larsen, T., & Oostindjer, M. (2015). Consumer-related food waste: Causes and potential for action. Sustainability, 7(6), 6457–6477.

5 Aschemann-Witzel, J., Hooge, I. de, Amani, P., Bech-Larsen, T., & Oostindjer, M. (2015). Consumer-related food waste: Causes and potential for action. Sustainability, 7(6), 6457–6477.

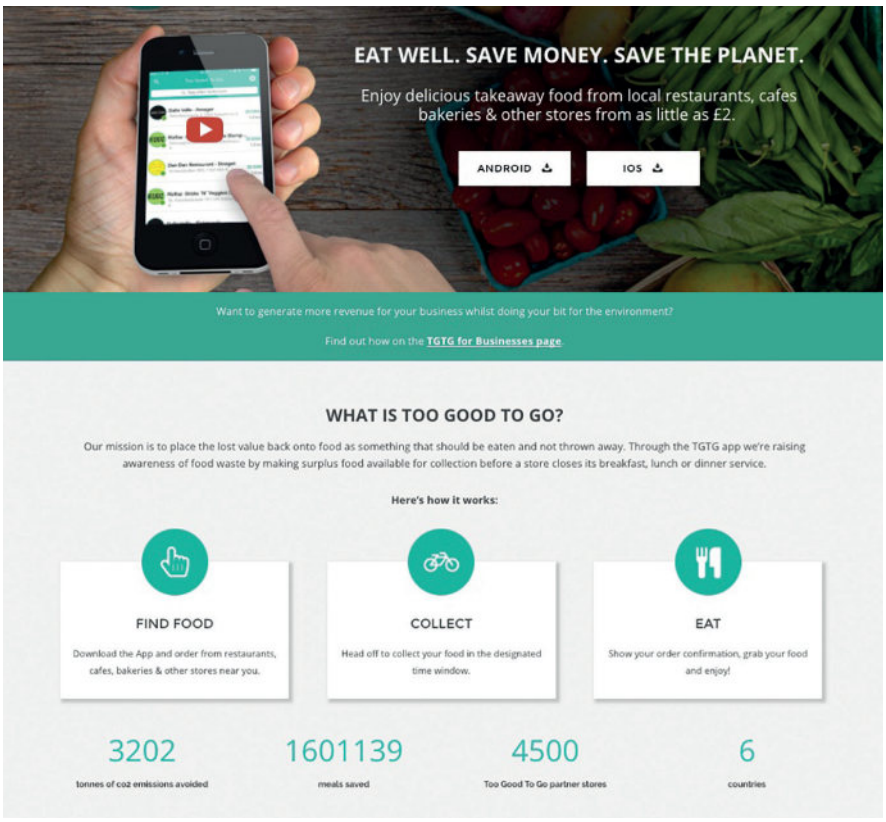
6 Aschemann-Witzel, J., Hooge, I. E. de, Rohm, H., Normann, A., Bossle, M. B., Grønhøj, A., & Oostindjer, M. (2017). Key characteristics and success factors of supply chain initiatives tackling consumer-related food waste – A multiple case study. Journal of Cleaner Production, 155, 33–45. https://doi.org/10.1016/j.jclepro.2016.11.173.

7 Aschemann-Witzel, J. (2018). Consumer perception and preference for suboptimal food under the emerging practice of expiration date based pricing in supermarkets. Food Quality and Preference, 63, 119–128. https://doi.org/10.1016/j.foodqual.2017.08.007. Kulikovskaja, V., & AschemannWitzel, J. (2017). Food Waste Avoidance Actions in Food Retailing: The Case of Denmark. Journal of International Food & Agribusiness Marketing, 7(1), 1–18. https://doi.org/10.1080/08974438.2017.1350244.

8 Aschemann-Witzel, J., Hooge, I. E. de, Rohm, H., Normann, A., Bossle, M. B., Grønhøj, A., & Oostindjer, M. (2017). Key characteristics and success factors of supply chain initiatives tackling consumer-related food waste – A multiple case study. Journal of Cleaner Production, 155, 33–45. https://doi.org/10.1016/j.jclepro.2016.11.173.

9 Aschemann-Witzel, J., Hooge, I. de, & Normann, A. (2016). Consumer-Related Food Waste: Role of Food Marketing and Retailers and Potential for Action. Journal of International Food & Agribusiness Marketing, 28(3), 271–285. https://doi.org/10.1080/08974438.2015.1110549.

Over the last two years, acclaimed Italian chef Massimo Bottura has been busy opening a handful of quasisoup kitchens called "refettorios" around the world, all of which serve dishes made from food waste. The original soup kitchen, which was established at the Milan Expo in 2015, is the subject of a new feature-length documentary called Theater of Life. To get the ball rolling, Bottura invited some of his famous buddies, including René Redzepi, Alain Ducasse, Daniel Humm, and Ferran Adrià, to cook at the Milan kitchen for the loca community. See the trailer on Youtube.



Founded in Denmark at the end of 2015 by a group of friends, Too Good To Go was soon able to grow internationally thanks to the diversity of its team. Those who had started the concept up in Scandinavia were quickly ready to take it home and in January 2016 work began on Too Good To Go UK. The team launched the app in Brighton and Leeds in June 2016 and have since gone onto to divert over one million meals from landfil across Europe. See more about Too Good To Go on Youtube

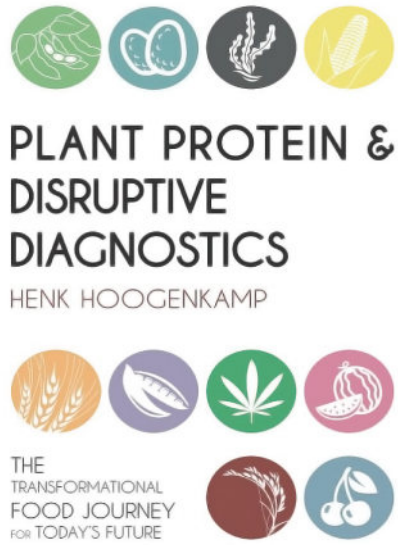
companies. For example, the Swedish retailer ICA started an own in-store kitchen preparing meals and snacks from suboptimal food, offering the result as lunch on a day-to-day basis via facebook9. Berlin start-up company Doerrwerk produces edible 'fruit paper' from fruit surplus in the supply chain, and the Dutch Kromkommers amongst others produced soups for the supermarket shelf which contain vegetable Founded in Denmark at the end of 2015 by a group of friends, Too Good To Go was soon able to grow internationally thanks to the diversity of its team.Those who had started the concept up in Scandinavia were quickly ready to take it home and in January 2016 work began on Too Good To Go UK. The team launched the app in Brighton and Leeds in June 2016 and have since gone onto to divert over one million meals from landfil across Europe. See more about Too Good To Go on Youtube. of suboptimal shape. These examples show that along all the steps of the supply chain, food sector business can create opportunities for reducing consumer-related food waste. It can be done in ways that acknowledge consumer´s goal conflcts with regard to food or the lack of food management capabilities. And in addition to that, the actions can also increase consumer awareness of the negative consequences of food waste, or provide easy tips on how to skillfully handle food in the household. More ideas are in the pipeline or have been tested, as for example smaller packaging, packaging indicating freshness independent of the date label, or easy-to-empty packaging solutions. And given consumers increasingly favour locality or diversity, appealing to their preference for local, seasonal fresh fruits and vegetables or portraying the diverse shapes and colours in a positive way might show that consumers can become much more open to non-standard fresh produce in their shopping basket.

2017
NEW

450 PAGES

HENK HOOGENKAMP

PLANT PROTEIN & DISRUPTIVE DIAGNOSTICS



The Transformational Food Journey for Today's Future: Profound insights for food industry and consumers.

Henk Hoogenkamp's groundbreaking book tackles topics from food-related disease to malnutrition to organic and GMO to dealing with a world approaching an epidemic of obesity.

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Along with detailed chapters discussing plant protein varieties such as derived from soy, pea, wheat, rice, potato and hemp the book explains:

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- Fast Good Food & Family
- Fiber: A Natural Need for More
- Lifestyle Diagnostics
- Real Plant Meat
- Sugar, Salt Phosphate: Less is More
- Natural & Organic
- Sarcopenia & Longevity

About the Author: Born in the Netherlands, in his entire professional career Henk Hoogenkamp has been ahead of the curve, many times more right than wrong. Many of the things he advocated for were initially looked upon skeptically, but are now standard procedure in the industry. With brutal honesty and lots of inside information, Henk gives a fresh new voice to the world of plant protein technology and marketing. Written in a refreshing engaging style, Hoogenkamp shares practical know how reflecting the skills needed to feed the world with food for tomorrow. A true timely book with undistilled wisdom and common sense gleaned from years of dedicated and hard gained experience and Henk's unique ability to inspire others to reach the next level of expertise.

Along with coining the term "Lifestyle Foods" in the 1990s, his resume includes pioneering work in developing sports nutrition supplements and groundbreaking applications for milk and plant protein ingredients in meatfree foods, cream liquers, cheese analogs.

ISBN 9781534787421

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Justin and Matthew Kamine, founders of KDG AG in front of the fist liquid fertiliser production plant

THE FORMULA 1 OF COMPOSTING

A US-based startup is turning food waste into liquid fertiliser and animal feed in 3 hours

The average supermarket in the US throws away 500 to 1,000 pounds offood every day. 90% of that amount currently goes to landfils where thefood waste creates greenhouse gases. At the same time soil health is a major problem for a growing world population. A United Nations report predicts that fertiliser resources might be depleted in less than 50 years.- An American group of investors named KDG AG is moving to offer a solution for both problems – and become a billion-dollar business at the same time.

KDC Ag is a family development team founded by two sons and their father joined by Howard W. Buffett (grandson of Warren), Alex Uruqhart former CEO of GE Energy Financial ($22b), Ann Veneman, former U.S. Secretary of Agriculture, Matt Jansen former President of ADM and many.

The Co-Founder (and one of the sons) Justin Kamine talked about their solution – the Ferrari of composting.

What led you to invest in a food waste solution?

We as a society currently throw away a tremendous amount of food. The current solutions for composting waste to energy represents an inefficient usage of the nutrients in this food waste – and most of them are slow or cannot be scaled. So, we came up with a simple prop1osition: we wanted to process food waste the very same day that it is thrown away. We are trying to utilize food and capture all the nutrients to maximum benefit. If this food cannot benefi humans anymore we want to give it back immediately to the system and thus create a much more sustainable agricultural cycle.

How does it work?

Six years ago, our group invested in a technology that is imitating the human digestion process. We pick up the food that would usually be dumped in a landfil, put it into a grinder very similar to your teeth, use digestive enzymes very similar to those in the human digestive system - and within three hours we can create a pathogen-free consistent and sustainable liquid fertiliser. This is 720 times faster than conventional composting!

How much food can you process?

We will be digesting about 100 tons of food every three hours. Each facility will be able to process 60,000 to 90,000 tons of fresh food what is it

per year. Our big goal is to limit any food waste within fie years because we can deploy this technology to any big city. The most important result is that we get a highly energetic fertiliser that is being fed to soils or animals the very next day with human grade food quality nutrients. We currently have around 10 bigger clients for our fertiliser, among them producers of avocado, almonds, strawberries, blueberries, carrots, leafy greens. We are currently working on agreements with bigger clients for their pig feed and chicken feed.

Are you up and running with the system already?

We have commercialized the system already in California. We are currently preparing his system on the East Coast in the Tristate area and we are currently planning the next 6 to 10 facilities across the US. Our goal is to install 50 of these systems all over the US in the next fie years which would eliminate food waste entirely. And then we want to move abroad.

How can this solution be a viable business?

As a company, we believe that to have the biggest ecological impact you have to have the best economics. We are definitely saving a tremendous amount of money for the supermarkets. We charge a very low, below the market amount to the supermarkets. They currently pay much more for dumping in landfils and the logistics. We pick up the food waste every day or every other day and we provide the bins for the different kinds of food waste increasing the hygiene in the supermarket itself. Our technology emits no odors and we utilize 100% of the food that we receive. Our fertiliser is price competitive against all major conventional and organic products. Our advantage is that we take in such a balanced diet - meat, fruit, vegetables and baked foods we can create a fertiliser that has a tremendous amount of vitamins and other nutrients that a lot of other products don't have. With this mix of ingredients, we noticed a great improvement of soils using our fertiliser - and improvements in yields and productivity. Apart from the fertiliser we also produce an animal feed for pigs and chicken.

For us it is like bringing agriculture and human consumption back to the times of the 18th and 19th century and before: Every component in the food system was utilized for maximum benefit. There was no waste. And we are doing it with innovative technology on anindustrial level."

Thank you very much.

PROTEIN: A JOURNEY TO A NEW REALITY

By Henk Hoogenkamp

Part 2

A New Day for Plant Protein

The consumer landscape is changing rather quickly and especially Millennial consumers (born 1982-2004) are driving change in areas such as clean and clear labels, natural, and recognisable ingredients. This powerful group of consumers is looking for unique meals or meat snacks with less or no preparation time. However, they also want foods to fit a holistic wellness that is perceived as foundationally nutritious. Differentiating lifestyle foods for specific consumer segments is becoming the new normal.

evolving. The most obvious sign of change is the fact that Millennials have surpassed Baby Boomers (born 1946-1964) as the largest generation in 2015. The Millennial customer prefers less processed food and likes menu components that are made to order, or can be personalized or customized.

Consumption of minimally processed natural fresh foods, including vegetables, fruits and snack meat grew by 22 percent from 2003 to 2018. Looking at it from a different perspective, more than half of food and beverage consumption now occurs when consumers are alone, not

since the turn of the century, a seismic shift has occurred and especially meat-formulated snacks, cheese, egg and yogurt are now considered the preferred emerging animal protein choices. It is clear that many young consumers have a different mindset when it relates to eating meat as their prime source of protein. In 2018 this trend is picking up further speed as an increasing number of consumers replace meat with non-meat alternatives, including the many extruded structured plant protein and hybrid foods in which meat is either eliminated or used as a component rather than a dominant source.

It is expected that the young generations will adjust their diet and include more sustainable food choices, including embracing the plant-forward movement. Plants will be playing a meatier role, and not just for vegetarian alternatives.

Consumer eating habits in the US are changing and there are clear indicators that explain why these patterns are

to mention the fact that households of just one person -28 percent in 2018- are at the highest level in US history. The trend of eating solo will grow in the years ahead and ultimately will also start to impact EU consumption patterns.

For centuries, meat and meat products have been the center of the plate to supply protein and nourishment. Ever

Eating meat is deeply rooted in most societal cultures. It is a fact that as people grow richer they (usually) increase meat consumption. This is especially true in developing countries catching on very rapidly to a western diet. It is also a fact that meat is nutritious and contains significantly more protein than plants. But even if all of above is true, there is an unmistakably trend to

eat "meat" made directly from plants, rather than indirectly via an animal's metabolism.

New technology is able to compound "plant meat" with real "plant blood" (leghemoglobin) that looks and tastes as if it has come from farmed animals. These formulated meat substitute equivalents are slowly inching up to the organoleptic quality of animal meat. These plant-based meat products such as burgers, are a vegetarian approach for consumers that are far removed from a vegan lifestyle, but simply want to feel good about contributing to a more sustainable food production and worry less about their wellbeing.

As a result, it is safe to assume that protein from plants will become the leading food trend of the next decennia. Plant meat food can ideally be teamed up with wellness, health and "natural convenience." Plant protein also bodes well for lifestyle prowess and environmental responsibility.

New US Dietary Guidelines

The new US dietary guidelines (2015-2020) back off from strict sodium rules, reverse previous guidance on the dangers of dietary cholesterol and add strict new advice to cut back on added sugar.

Apart from these guidelines, the new dietary advice can be summarized as an environmentally friendly diet, lower in red meat and processed meats and de-emphasizing the role of lean meats in the list of proteins that are part of a healthy eating pattern. As a strategy to increase the variety of protein foods, consumers should increase consumption of seafood, vegetables, fruits, and seeds and nuts.

Meat Rules Protein

Consumers' relationship with meat in their diets is changing. This is mainly caused by the shift in perceptions of meat's effect on nutritional and health properties. Although it is true that affluent consumers are increasingly aware of the importance of dietary protein, they often look away from meat and instead prefer non-meat foods as their first choice. This development should set off alarm bells for the meat industry in the western world. Growing meat consumption in emerging markets will push the global market with a volume growth of 3 percent in 2018. Poultry has emerged as the most popular meat protein in the world, increasing by 4 percent volume growth.

Shifts in meat consumption occur in both developed and developing markets. The US and some EU countries have a negative growth (-1 percent) while poultry wins shares of the consumers' stomachs at the expense of beef and pork, with the exception of China. Some of the declines in meat consumption are due to health concerns, religious and sustainability issues, but also due to consumers embracing or adopting a different diet and lifestyle.

To put these figures in a different perspective: the US population of about 330 million eats about 20 billion hot dogs each year, according to the National Hot Dog and Sausage Council. It does not require much imagination to figure out how many trillions of hot dogs will be eaten globally when these figures are extrapolated, assuming the typical American diet will prevail.

The twin effects of time-pressed lifestyles and pressed budgets are the main reason that consumers living in affluent societies are shifting away from home-cooked traditional center-of-the-plate whole muscle meat cuts, and are switching to semi- or fully prepared natural wholesome options, including snacks. Increasingly, meat is looked at as an ingredient.

In 2018, Canadians will be eating some 30 percent less pork and 20 percent less beef compared to 2000. Over the same time period, chicken consumption has increased by approximately 12 percent. There are multiple reasons why meat consumption is steadily declining in affluent societies. For the ageing population, health is usually cited as the main reason, while the Millennial generation favours different lifestyle choices in which meat increasingly plays a less dominant role as center-of-the-plate food. Globally consumers are continuing to drive demand for

animal protein types, but certainly as it relates to chicken.

Water and GHG

Long-term agricultural greenhouse gas emissions are clouded by two main uncertainties:

• How does livestock production and consumer preference for meat and dairy cope with much-needed yield improvement in order to meet rapidly growing demand?

• How fast do human dietary requirements and food preferences change?

Emissions are closely interrelated with agricultural land, manure management, crop yield, genetic livestock improvement, and possible climate change and water availability.

Agriculture accounts for about 15 percent of Green House Gas emissions globally, including emissions from mechanical farm equipment, ploughing and planting, manure management, feed cultivation and field burning (US, Environmental Protection Agency 2015).

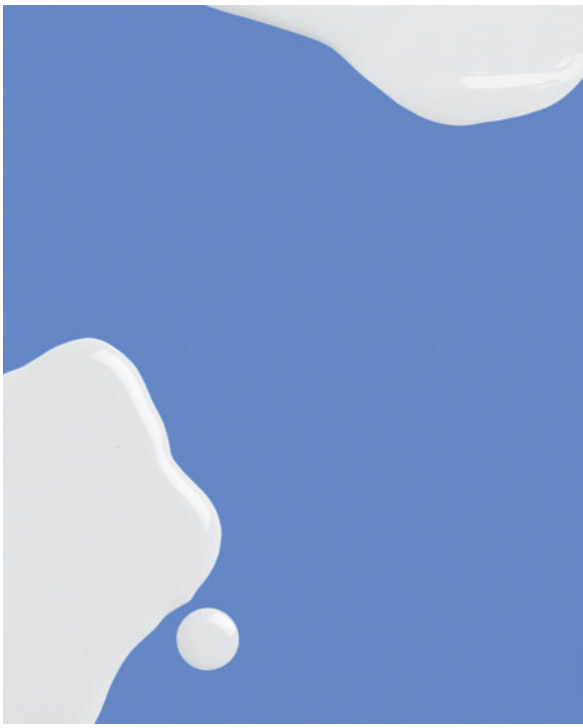
When extrapolating 2018 baseline knowledge to 2050 feed and food availability, it can be concluded that the projected increase of ruminant meat and dairy consumption will not be able to keep emission levels within agreed targets, unless major technology improvements occur and are implemented. Hence, based on today's state of technology, it can be predicted that meeting climate targets may require forced reduction in the future of meat and dairy consumption. To be specific, in reality, this will mean an increase per capita consumption in the developing world and a much-needed decrease in affluent societies. Realistically, however, this is not going to happen anytime soon.

Carbon dioxide emissions from energy and transportation currently take the largest share of climate pollution. On the heels of energy and transportation come the emissions from agriculture and these will continue to increase to keep pace with the significant projected growth of global meat and dairy consumption. It will be necessary to address these increases because when no adequate actions are implemented, nitrous oxide from the field and huge methane emissions from livestock may double by 2050, if not sooner.

There is no question that the growth of meat production is intimately associated with many ecological issues. Meat and ecology are on a collision course. Especially the huge requirements of fresh water for meat producing animals will have a catastrophic impact on the environment. The world needs to make hard choices and will –at some point- be forced to accept a diet with less animal protein.

Conventional beef production by means of raising animals for a quickly rising world population requires enormous levels of energy, feed, and water expenditure. These factors are damaging the ecological environment and will, ultimately, prove to be unsustainable. In addition, traditional beef production is a time consuming process that has a high impact on carbon emissions, not to mention the huge amounts of methane released into the air. Methane gases released by cattle are very damaging for air quality as agriculture is responsible for an estimated 15 percent of the world's greenhouse gases. A significant portion of these methane emission pollutants is 23 times more powerful than carbon dioxide. Cows emit a massive amount of methane through belching, with a lesser amount through flatulence. These ruminant animals have four stomachs and digest feed in their stomachs instead of their intestines. The bacteria that aid digestion in these stomachs produce most of the methane. The question that needs answering is if large-scale agriculture-driven cattle faring is sustainable in the long term?

The solution will be to develop improved genetics of livestock, providing increased amounts of lean muscle meat, cultured meat, insect protein extraction and last but not least great tasting nutritive plant-based protein foods. Consumers should be encouraged to eat more plant-based protein foods to not only improve their nutritional status but also relieve the rising world demand for meat and dairy protein.



Most –if not all- of the West European countries are not self-sufficient in foods supply and heavily rely on vast imports from other parts of the world. For example: in 2018 only 52 percent of food eaten in the UK comes from UK farmers. This number is considered too low, especially if Brexit starts to take hold. Putting more emphasis on plant protein formulated diets is a major step forward for a country to secure its food supply.

Protein: Alternatives

When it comes to protein, consumers have a lot to choose from. Plant protein

ingredients like those derived from legumes, cereals, vegetables, and fruits are rapidly transforming into a valuable functional and nutritional cost-effective ingredient in various food formulations. A good protein has a handful of components: stellar nutrition, great flavour, colour, process adaptability, versatility and performance in more ways than one. Plant proteins –or vegetable proteins- are widely regarded as functional and versatile. There is no question that the harvest needs to transform plants into premium

and sustainable protein foods to nourish the world.

Ingredients or active biological intermediate compounds are important for securing essential nutrition in formulated food, beverage, and meat products. The interaction between, and behaviour of proteins and their blends are of great importance in a wide range of applications in food technology, biotechnology, biomedicine, and cosmetics. Protein derived from all-natural plant sources such as soy, wheat, pea, rice, corn, potato, algae and water lentils has all that and more.

It is clear that modern consumers want more lean protein in their diet, and many are looking to lower the cost of protein sources. In theory, plant proteins should be less expensive, though in reality this is not always true, especially when it concerns so-called high moisture extruded meat analog foods. More consumers are willing to look beyond animal-based proteins to satisfy their lifestyle as well secure their need for protein. While generally the interest in protein is growing, plant-based meat-alternatives are emerging as a viable option. The number of grocery shoppers that seek out protein-enriched foods is increasing, and many are willing to pay a premium for these foods.

The bottom-line is that consumers should be encouraged to have diets that are less energy-dense, allowing a larger food-intake containing essential nutrients such as proteins, healthy oils, vitamins, and minerals.

Insects (Entomophagy)

It will be essential to develop an economically, ethically, and nutritionally tasty and viable source of meat for the wellbeing of people. Edible insects and products made from insect protein flour –such as meal worms- that can stretch the sustainability and availability of animal protein without further damaging the environment. From a nutritional standpoint, insects are comparable to livestock. Start-up businesses across the globe are producing low-cost forms of insect protein to supplement an ever-growing need for "factory-farmed" livestock production. Early attempts are also made to introduce foods such as mealworm burgers and insect protein formulated nutribars.

Insects are often considered a delicacy in certain culture; from chapulines (toasted grasshoppers) in Mexico to fried tarantulas in Cambodia. Some two billion people routinely eat insects as part of their diet. Beetles are the most commonly consumed, accounting for 30 percent of the total eaten, with caterpillars second at 18 percent. Crickets are served as crispy fried delicacies and cricket protein flour as ingredient in popular dishes in China and Thailand.

The Western world might not be ready to welcome insects into their diets quite yet. It is doubtful that Western consumers will fully embrace entomophagy anytime soon. Perhaps the only chance is to introduce the concept at a very slow pace, reflecting a business strategy first on eliminating stigma and aesthetically reshaping food products i.e. through –for example- 3D printing. In a way, much like the Western consumer got used to eating sushi.

Humans' perception of food is largely dependent upon the food's "appropriateness". In other words, in the consumer's mind, "perception is reality" even though the food's composition is different than what they think.

Entomophagy –the official word for eating insects- is considered one of the solutions to meet the huge increase in demand to feed the world affordable and nutritious supplies of protein.

The evolutionary march by our ancestors from eating insects to BigMac's stretches 1,5 million years. Meat consumption is threaded throughout human culture and perhaps even genetics.

Under EU food law insects are classed as novel foods and are yet to be approved. Most EU citizens would accept the use of insects as animal feed, but are more anxious about human consumption and find eating them repulsive. In the future insects –perhaps fully processed into unrecognisable protein powders- should be part of the solution to the huge challenges ahead because of the growing world population.

Eating insects could very well become part of a regular diet. As a matter of

fact, it already is: vegetables, fruit, chocolate, and peanut butter usually contain insect fragments, not to mention the red food colourant cochineal made from crushed carcasses of a Latin American beetle. It is estimated that an adult person ingests about 700 gr/yr. of insects without even knowing it.

A major reason for considering high-quality insect protein is the nutritional, economic and environmental impact, while the biggest advantage is that insects are also very efficient in converting agricultural food waste to useful animal protein. Still, many questions remain to be answered before insect protein becomes mainstream. One of these questions is ethical in nature and another is whether the genetic make-up of insects might negatively influence long-term human health.

The World in Transition

Diets high in dairy and meat are expected to rise exponentially because of the growing number of people that will have the means to afford these much-beloved foods as the primary source of nutrition. However, the enormous expected increase in animal protein consumption will mean a real setback in reducing greenhouse gas emissions.

The growing number of transformative changes, with increasing meat and dairy consumption, as well as the rising demand for food and nutritional quality, will put additional pressure on the agricultural eco-systems. To meet world needs by 2050, it is estimated that about 70 percent more food must be produced from less land and fewer inputs such as chemical pest control, less water, and less fertiliser.

In addition, the inequities between developing and affluent societies must be solved in order to improve economic and societal imbalances.

Agricultural productivity rates have failed to keep up with global population growth. The overuse of priceless fresh water poses not only serious environmental hazards but also a risk to social and political stability. It is inevitable that water scarcity will cause certain food shortages in the next decennia. In 2018 and beyond, water withdrawals will probably surpass sustainable supply and this discrepancy will only widen.

Soybean cultivation can serve as an example of how difficult it will be to navigate the world of future requirements and their environmental impacts. The average EU citizen consumes 61 kg of soy yearly, 93 percent (57kg) of which is embedded as animal feed in the animal-derived foods that most consumers eat daily. By far the highest amount of embedded soy (109gr per 100gr) is present in chicken breast meat, closely followed by eggs (55gr. of soy per 100gr), pork chops (51gr. of soy per 100gr. of meat), hamburgers (46gr. of soy per 100 gr. of meat) and cheese (25gr. of soy per 100gr. of product).

Although soy is an essential part of the global food supply, the high-protein crops have negative ecological and environmental impact if grown irresponsibly. There is no doubt that the explosive growth of the soy crop has come at the expense of millions of hectares of grassland, forest, savannah and wilderness, taken away and converted to agriculture harvest land around the world. South America in particular has been affected, destroying valuable eco-systems such as the Amazon. But also Africa is catching up rapidly by destroying wildlife and habitat land, and turn it into agricultural land and/or urbanisation projects.

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ANUGA FOODTEC 2018 EXPECTS TO SET NEW EXHIBITOR RECORD

Around 1,700 exhibitors (+13 percent) awaited in Cologne

•

Increased exhibition space up to 140,000 square metres

•

Top level of internationality

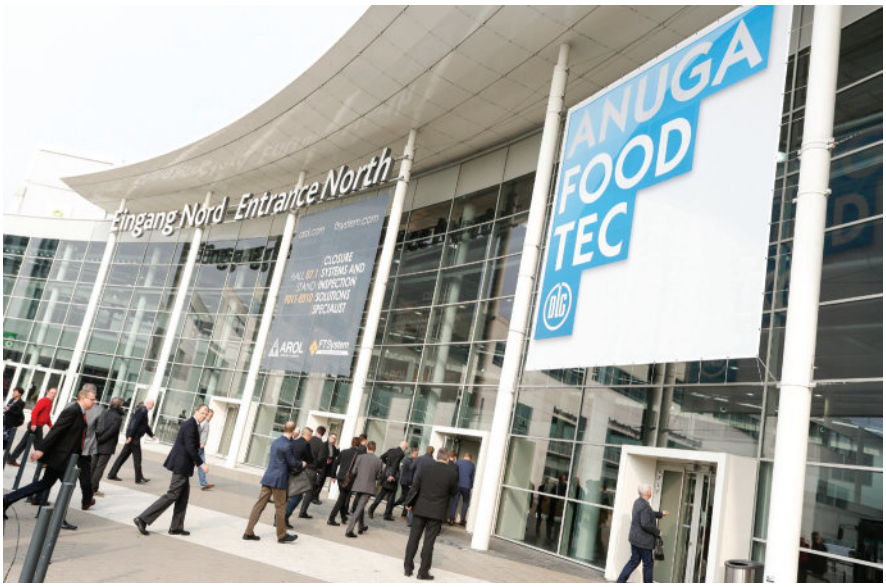
•

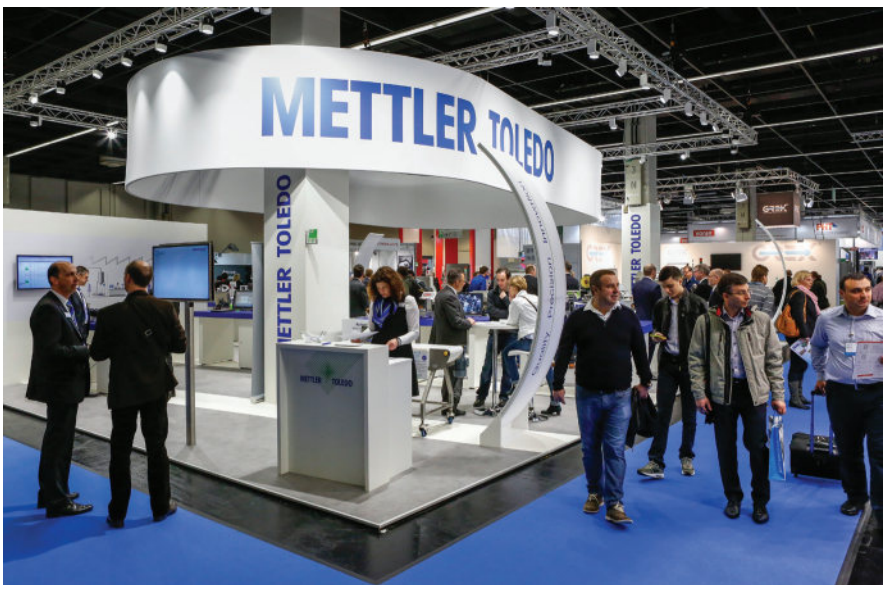
Comprehensive event and congress programme

More than packaging: Anuga FoodTec, the leading international supplier fair for the food and beverage industry, is opening its doors from 20 to 23 March 2018. Around 1,700 exhibitors are expected in the Cologne exhibition halls. "Anuga FoodTec will continue its success story.

As such, as the only trade fair worldwide, Anuga FoodTec covers all aspects of the food production and will convince in the coming year even more than ever due to its enormous variety of offers and quality," said Katharina C. Hamma, Chief Operating Officer of Koelnmesse GmbH. In line with the high demand on the exhibitor side, Anuga FoodTec is again increasing its exhibition space in 2018 up to 140,000 square metres (+8 percent) and is being staged in Halls 4.2, 5.2, 6 to 9, 10.1 and for the first time additionally in Hall 10.2. Anuga FoodTec is also presenting itself in good form in terms of its degree of internationality: Companies from more than 50 countries will be presenting their new products in Cologne. "The high interest from abroad proves that Anuga FoodTec is the leading international supplier platform of the food and beverage industry." In addition to the comprehensive product show, which encompasses large-surface live presentations, a wide-ranging congress and event programme also awaits the trade visitors again. The top theme of Anuga FoodTec 2018 is Resource Efficiency.

One for all - all in one: With its exhibition segments Food Packaging,





Safety & Analytics, Food Processing, Food Ingredients as well as Services & Solutions, Anuga FoodTec covers all aspects of food production. The exhibitors present solutions for all branches of the food industry, from the dairy and meat industries, from beverages to pasta, from fruit & vegetables, to oils & fats. Anuga FoodTec offers both individual solutions as well as holistic, cross-process concepts across all production stages.

Traditionally, process technology is the most strongly represented section at the trade fair. Almost all of the market leaders and renowned

companies from the industry will be exhibiting in Halls 4.2, 6, 9, 10.1 and 10.2. In Halls 7, 8 and in parts of Hall 9, the focus is on the theme "Food Packaging" and thus also on packaging machines, packing materials, automation and control technology. In Hall 5.2, the trade visitors can find all information on food safety and quality management. Here companies that focus on hygiene technology, analysis, laboratory and measuring devices will be presenting their new products. The Boulevard offers the perfect stage for the product segment Food Ingredients from 20 to 23 March 2018.

The mixture is what makes the difference: Top level quantity and quality

In addition to the large variety of offers of the around 1,700 exhibitors awaited, top quality is also guaranteed: Nearly all of the market leaders and further renowned companies have confirmed their participation at an early stage. Among others, the following companies will be exhibiting at Anuga FoodTec 2018 in Cologne: Albert Handtmann, Almac, Andritz, Alpma, Auer, Barry-Wehmiller, Beckhoff, Bizerba, BluePrint, Bosch, Bruker, Bühler, Cabinplant, CFT, Ecolab, Ecolean, Exxon Mobil, Festo, Frontmatec, GEA, IMA, Ishida, JBT, KHS, Linde, Marel, Metalbud, Mettler, Mohn, Mondini, Multivac, PHT, Reepack, Schubert, Schur, Sealpac, SEW, Siemens, SPX, SSI Schäfer, Pöppelmann, Taghleef, Tavil, Tecnal, Tetra Pak, Trepko, Weber, Vemag.

Anuga FoodTec 2018: An international driving force

As the leading global trade fair, Anuga FoodTec is the most important driving force of the international food and beverage industry. The number of companies represented in Cologne is correspondingly high. According to the status in November, companies from 50 countries will be presenting their new products at Anuga FoodTec. At 56 percent, the share of foreign exhibitors remains at a constantly high level. For the first time companies from Egypt, Latvia, New Zealand and Norway are represented at the most important supplier trade fair for the food and beverage industry, which underlines the increasing international significance of Anuga FoodTec. In terms of the number of visitors, guests from over 140 countries are awaited in Cologne from 20 to 23 March 2018.

Informative and inspiring: The event and congress programme of Anuga FoodTec

With numerous, large-surface exhibitor presences, live presentations on running production lines and a large diversity of offers, Anuga FoodTec has an extremely practice-oriented alignment. The comprehensive event and congress programme including star-studded conferences, forums, guided tours and numerous special events will provide additional information and inspiration. The opening conference (2:00 p.m., Congress Centre East, Europasaal) is dedicated to the central theme of Resource Efficiency.

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Practically The Entire Spanish Meat Industry Will Attend Intercarn 2018

From 16 to 19 April 2018, the next edition of Intercarn, the Alimentaria show dedicated to meat and meat products, will once again reaffirm its status as the nerve centre for the domestic and international meat industry, with the unanimous support of the biggest companies in the market and the industry's most representative associations and institutions.

Internationalisation, innovation, business and the entire industry offering. These are this show's strengths; its history as part of Alimentaria has led it to achieve the top international rankings among the industry's shows and establish itself as the platform of choice for the domestic meat industry.

Intercarn 2018 will occupy over 15,000 sq. m of net exhibition space at Fira de Barcelona, making room for more than 500 exhibitors renowned for their quality, history and innovative drive.

The show benefits from a high degree of loyalty from its participating companies. Over 80% of exhibitors participate in the show year after year. The key to Intercarn's success lies in the show's enormous convening power; thanks to being part of Alimentaria it has access to more than 140,000 visitors—mostly buyers and professionals in distribution, retail and the Horeca channel, more than 40,000 of which are international visitors.

In this regard and with the aim of promoting business and opening new markets for meat companies, Alimentaria invites more than 600 international buyers and influencers and organises a programme of crossover meetings between exhibitors and buyers selected by the exhibitors themselves, which allows Intercarn's companies to close deals and access new markets.

In addition, the World Congress of Wholesale Markets to be held for the first time at Alimentaria, promoted by the World Union of Wholesale Markets, guarantees the full presence at the show of large-scale wholesale distribution, market managers and directors from over 40 countries.

Unparalleled Offer

For J. Antonio Valls, Director of Alimentaria and Head of Intercarn, 'the wide-ranging offer provided by the show is unparalleled. Intercarn is a unique platform for exhibiting the fullest industry offering and the latest trends in the meat industry to buyers from around the world, since it offers a comprehensive and broad-based representation of the entire industry'. Thus, the show exhibits raw, processed, cured, pre-cooked, dried and Iberian meat products, and branded prepared products, as well as other categories.

At its next edition, Intercarn will

again welcome companies from the UK, Italy, the Netherlands, Portugal, France, Germany and Romania, as well as other countries, and facilitate contact between buyers and exhibitors to generate new business opportunities. Intercarn will expand the road to internationalisation that we have been promoting at previous editions to open up new marketing channels abroad and provide the best business opportunities for international companies whose exports are increasingly significant,' states Valls.

Additionally, the Spanish regions with the most significant meat production industries will attend the show with large company representations from each of their territories. And major industry associations such as Interporc, Interovic, Anafric and Fecic will also have a prominent presence at Intercarn.

Organising Committee

In order to govern its guidelines, Intercarn has a new sectoral committee, with Paolo Soares, Regional CEO for the South of Europe at the Campofrío Food Group, as the Chairperson, and Anna Bosch, CEO of Noel Alimentaria and Chairperson of the Spanish Serrano Ham Consortium, as the Vice Chairperson. Both appointments underscore the strategic importance of the industry for the whole of Alimentaria and provide the show with greater prominence. The remainder of the committee is made up of senior leaders from the most important companies in the Spanish meat industry, as well as the most significant industry associations.

Equipment And Technology At Tecnocárnica

The meat industry owes much of its competitiveness to the machinery, equipment and technology sector that supports it. At FoodTech Barcelona, part of the portfolio of Alimentaria Exhibitions, the Tecnocárnica show will again be the meeting point for a sector that is committed to innovation and cutting-edge technology for the meat industry to be able to improve its production processes and remain in leading positions in the international market.

Together with Tecnocárnica, TecnoAlimentaria and TecnoIngredientes complete the sectors at FoodTech Barcelona, to be held from 8 to 11 May at Fira de Barcelona's Gran Vía venue.

Economic Driving Force

The meat industry is the fourth largest industrial sector in Spain with a turnover of over 22 billion euros, more than 21% of the entire Spanish food industry.

In 2016, meat production in Spain amounted to 6.419 million tons, representing an increase of 4.7% over the previous year, according to the Ministry of Agriculture and Fisheries, Food and the Environment. Spanish meat production has experienced significant growth over the last decade, largely driven by increased exports.

The meat industry is also the primary agri-food sector in Catalonia, where Intercarn and Tecnocárnica are held. The Catalan meat industry leads the entire Spanish industry. Catalonia is the leading producer of meat nationwide with 2.2 million tons in 2016, 3.6% more than in 2015, accounting for 34% of Spanish meat production.

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