

MEATINGPOINT

magazine

SUSTAINABLE TECHNOLOGY, PROCESSING & PACKAGING

SOCIETAL FOOD: GLOBESITAS

HOW TO DETERMINE
SHELF LIFE OF
CHILL-STORED
FRESH MEAT



BLANCAFORT FOODS
AND SEALPAC:
PIONEERS IN PROCESSING
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OF MEAT



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Dear reader,

The summer holiday season is coming to an end and, for many of us, that September 'back to work' feeling is already encroaching. Most probably you are seeking ways how to avoid post-vacation syndrome. Saying goodbye to the sun, sea, garden parties and freedom not to look at your emails can remind you of "back to school" feeling. There's nothing like a dose of the post-holiday blues to make you wish you'd chucked it all in and opened a yoga school on a Spanish island.



Tristan Bogaard

However, it doesn't all have to be doom and gloom, though. The good news is that September brings with it an inescapable urge to better yourself, set new career goals and timelines, identify the resources you will need, monitor your progress and share your plan with your colleagues. To begin with, you can buy a new stationary and make a schedule.

Don't miss to note some upcoming trade fairs to your agenda. Among some of the must visit international trade fairs this autumn are Polagra - Tech 25-28 September, Poznan, Poland; Process Expo, 19-22 September, Chicago, USA; Agropromash, 9-13 October, Moscow, Russia; Gulfood Manufacturing, 31 October - 2 November, Dubai, UAE; Meatex, 13-16 November, Tehran, Iran. They offer a comprehensive overview of new processing and packaging technologies, encompassing an extremely broad scope of equipment and products. What a perfect opportunity to network, discover clients, and generate new leads, keep tabs on competitors and innovations.

In this issue of Meating Point Magazine you can find some of the cutting edge industry innovations, and read about the latest business news. As always we have case - studies, company profiles, consumer trends and focus on animal welfare and ecological sustainability.

Enjoy your read!

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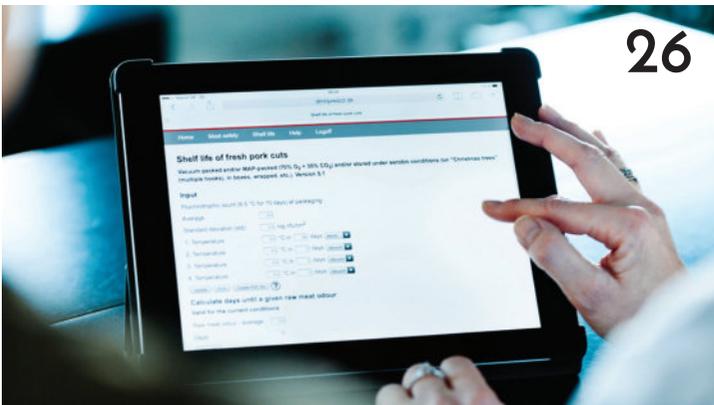
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LIMA: QUALITY IN SEPARATION AND DESINEWING AT PROCESS EXPO 2017



RM 400 DDSM

LIMA is showcasing its new developments in quality in separation and desinewing at PROCESS EXPO 2017!

Among the recently developed models: 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).

To know more about these equipment, visit LIMA on booth No. 2667.

www.lima-france.com

K+G WETTER: HIGH-PERFORMANCE SOLUTIONS FOR HIGH-QUALITY PRODUCTS AT PROCESS EXPO 2017:



The "Easy Access" of the new angle grinder and mixer angle grinder E 130 mm / G 160 by K+G Wetter facilitates machine cleaning and component assembly.

Each company in the meat processing industry has special needs and different requirements when it comes to day-

to-day work. K+G Wetter offers the right solutions with its machines for industrial applications and the trade, which guarantee consistent quality for most diverse products. At this year's Process Expo in Chicago, the distribution partner of K+G Wetter - AmTrade Systems, Inc. - will represent a wide range of innovative technology by K+G Wetter and new technical details for high-grade meat processing.

Like all the machine solutions produced by K+G Wetter, the innovative angle grinders and mixer angle grinders E 130 mm / G 160 guarantee the highest possible hygiene standards and reduced workload in trade and industry. The new machine's USP is constituted by the direct access to the grinder hopper, the so-called "Easy Access" function.

The spacious aperture not only makes cleaning easier but also ensures greater convenience when working. Ultimately, users can simply access the hopper, e.g. to add spices or to install and remove the mixing shaft and feeder worm.



The K+G Wetter pneumatic unit is now completely installed in the body of the grinder and therefore does not come into contact with the product to be processed - a real plus in terms of hygiene.

In terms of mixing capacity, the new mixer angle grinder can accommodate up to 190 kg of meat.

Another clever detail is the sorting device on the K+G grinders and mixer grinders. K+G Wetter has now designed its sorting device in such a way that both the manual and pneumatic device can be completely installed or removed in just a few seconds. This allows the user to clean the individual components particularly easily and thoroughly. The connection of the drive to the closing mechanism of the new sorting can be separated easily and without tools via a plug-in connection.



The new 120 litre vacuum bowl cutter (VCM 120) by K+G Wetter combines functionality and easy operation.

Advanced vacuum bowl cutter

K+G Wetter has also created advanced solutions for its bowl cutters, which combine functionality and easy operation.

The new 120 litre vacuum bowl cutter impresses in terms of the simplicity of its complete design. The split vacuum lid, which is used for extremely fast loading and unloading, is a key feature. In addition, the vacuum chamber of this series has been reduced - this also saves valuable production time. The new bowl cutter is primarily designed for butchers and small industrial companies.

Further information on the machines and all innovations by K+G Wetter can be found at the Process Expo, Booth 1064.

www.kgwetter.de

INOTEC: SAUSAGE SEPARATION – AWARDED INDUSTRIAL DESIGN – WT99IT SERIES LINK CUTTERS, iF DESIGN AWARD 2017



WT99-iT

INOTEC is a worldwide active player which supplies machines and complete processing installations for the food industry. The product portfolio of the company includes complete processing

lines, mixers, emulsifiers, string tying and portioning machines and a very wide field of sausage link cutters.

INOTEC is the proud winner of the "iF Design Award 2017" for the new generation link cutter WT99-iT. The new generation link cutters are complying with all the demands of hygiene, sanitation and ergonomics while meeting all requirements of the heavy duty working environment of the food industry.

The separation of sausage links as posterior stage of the cooking or maturation process and the previous stage of the packaging is one of INOTEC's fields of activities. The link cutting machines of the iT series can cut all sausage types with an extremely high precision. A working speed from up to 1800 cuts per minute can feed also modern high performance packaging machines in the most efficient way.

The INOTEC operation concept „iT“ is based on a 10,4" Touch Screen Panel with an industrial computer which

controls the machine only by symbols and without using any language.

This new and modern "iT" operating and control concept was already awarded in 2013 with the prestigious FT Award. Multiple operating modes are enhancing the field of applications of the INOTEC sausage link cutters. For example, a mode for constant cutting allows to cut cabanossi sticks, show elements for pizza toppings or soups or snack pieces. Another feature is the counting function which allows the production of bulk packs; the requested quantity of sausages is counted and after reaching the target the machine stops for a defined time which allows a subsequent machine to load the product in the package. The WT99-iT is the unique sausage link cutter with a filter of the uneven points where the sausages are hanging on the smoke sticks (cobra heads). This feature is specially designed for naturally matured salami products a technical highlight which improves the yield of "good cuts" up to almost 100%.

www.inotecgmbh.de



PARKSIDE CREATES FIRST RE-CLOSE FROZEN PACK FOR NORTHCOAST SEAFOODS

Packaging solutions provider, Parkside, has collaborated with Northcoast Seafoods, a UK seafood supplier, to create a first to market re-close pack for frozen foods.

The pack has been developed with Parkside's unique laser scribe technology, Parkscribe®, creating an easy open and reclosable pack for frozen products.

Paul Lenihan, Business Development Manager at Parkside, said: "The growing urbanisation and fast-paced lifestyle of consumers in the UK means less time is available for cooking a traditional home cooked meal and an increase in convenience foods including frozen products.

"Frozen foods can be stored for longer periods and can be prepared easily.



Our new pack provides consumers with a re-close feature allowing them to easily open the packaging time and time again, with no compromise on the function of the pack."

The Parkside pack design was created using a PET / PET laminate, which seals to APET and RPET trays. In addition, it utilises Parkside's specially developed adhesive and Parkscribelaser Technology that allows the all-important re-close function in both ambient and freezer conditions without loss of adhesion, giving consumers a usable portion control pack.

Mr Lenihan adds: "Within the frozen food market segment, the continuous innovation and development of packaging continues to attract new customers. We are seeing further development of new features for existing products, such as hanging holes and single serve options. Parkside is focused on continuously developing strong market insight, with the consumer front of mind, to deliver innovative and relevant solutions to our customers."

The packs are initially being developed



for frozen prawns and will soon be available across a range of Northcoast products distributed to UK retailers.

Chloe Darwood from Northcoast Seafoods, comments: "We were originally looking for a re-close pouch though after hearing about Parkside's reclose options, we were sold. We have been suitably impressed with Parkside's solutions and the company's expertise. The team worked closely with our co-packer to ensure the new pack ran down existing packing lines, avoiding any extra costs in additional machines. At Northcoast Seafoods, we are excited to have developed the first reclosable pack developed for the freezer."

www.parksideflex.com

YAMATO WHITE PAPER PUTS SPOTLIGHT ON SAFETY AND PRODUCTIVITY

Yamato Scale Dataweigh UK, a leading manufacturer of quality industrial weighing machines, has published a white paper which puts the spotlight on the relationship between safety and productivity in processing and packaging lines.

According to academic research, production plant managers find



Yamato has published a white paper putting the spotlight on the relationship between safety and productivity in processing and packaging.

that a noisy environment, a lack of resources and unsafe facilities are the most common primary factors affecting worker productivity.

Worker complaints of fatigue, back pain, upper-body pain, hand and wrist pain and headaches are commonplace. These complaints can lead to longer-term health

problems that can significantly affect productivity and profitability of food manufacturers, processors and fresh produce suppliers.

Can a focus on machine safety mitigate these problems and increase productivity? The paper sets out to answer the question by highlighting the benefits of safety in processing. It examines how this is achieved by paying attention to standards and compliance and implementing sound training practices.

Yamato commercial operations manager Andrea Spencer said: "Managers in food production need to improve their knowledge of ergonomics as it relates to productivity. There are still many companies which do not carry out ergonomic assessments. Industry research has found a significant correlation between productivity indicators and health and organisational attributes.

"A lack of training is believed to be a contributing factor to the poor ergonomic conditions and consequent loss of worker productivity and reduced health and safety in manufacturing industries including food processing. A focus on safety in machinery design and appropriate training can help."

Training staff in the safe operation of machinery including automatic weighing machines enhances health and safety and reduces the risk of injury or machine downtime. Productivity is therefore assured. Training should include the principles of safe operation, manual and automatic operation of multihead weighing machines and controlling product flow.

There is a wealth of evidence to suggest a clear link between health and safety and productivity in manufacturing, not least in food production. Adopting good health and safety practices leads to increased

innovation, improved quality and an enhanced corporate reputation. The resultant high-quality working environment can help to create good levels of co-operation between management and employees. This leads to a work organisation that gives employees challenges, responsibilities and job autonomy.

Andrea Spencer said: "Developing new working methods and equipment to improve working postures and decrease the strain of physical work also helps in allowing creative solutions for specific safety and health problems that minimise staff absence and so increase productivity."

www.yamatoscale.co.uk



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Online auctions for the food and beverage industry

Online auction machinery and inventory due to closing production
Struik Food Belgium in Schoten, Belgium

Viewing days:
18th & 19th of September



Closing auction:
21st of September



Online auction machinery and inventory cattle and pig slaughtering line
Vion Riedlingen, Germany

Viewing day:
2nd of November



Closing auction:
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www.Industrial-Auctions.com

TOMRA INTRODUCES CHICKEN WOODEN BREAST DETECTOR

TOMRA Sorting Food has introduced the TOMRA QV-P, an in-line detector for the identification of chicken wooden breast - a condition that affects broiler chickens, making the meat hard and chewy.

Utilizing established, patented technology, TOMRA has expanded the range of applications for its offering in the meat and poultry sector. The TOMRA QV-P is the world's first in-line detection machine for the identification of wooden breast in chicken fillets and butterflied, and allows processors to accurately grade chicken fillets against specific criteria.



The unique solution, which uses multispectral lights to allow high speed analysis of the chicken fillets, was showcased at the IPPE (International Production & Processing Expo) in Atlanta, Georgia, earlier this year.

The dedicated software allows the TOMRA QV-P to accurately grade chicken fillets into multiple grades, determined by the customer, on the severity of wooden breast in the fillet or butterfly.

Thorsten Niermeyer, business unit manager Process Analytics at TOMRA Sorting Food, says: "Our in-line equipment is able to measure the chemical composition of each fillet and determine the respective grade. This information is vital for processors to decide on the use of chicken fillets for further processing."

Previously, processors had to manually review each chicken fillet before processing, in what was called a 'thumb check'. With TOMRA's new



in-line analyzer, these time-consuming, labor-intensive, manual checks are no longer needed.

TOMRA's analytics solutions allow meat and seafood processors to guarantee a consistent product quality, increase profitability and simplify daily operation.

www.tomra.com

HYGIENIC DESIGN MEETS HIGH SPEED:

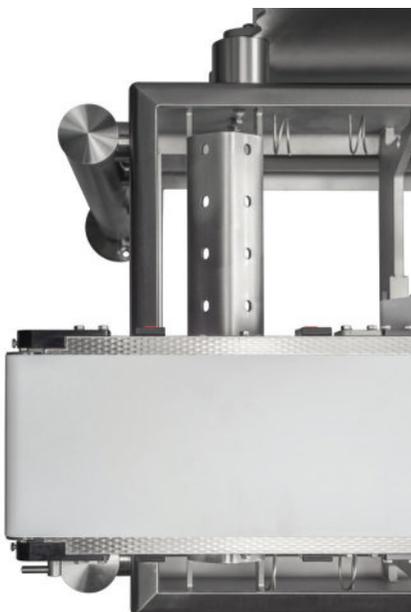
THE NEW CHECKWEIGHER FROM MINEBEA INTEC

Since the launch of the checkweigher Flexus last year, the hygienic design features for the food industry have been systematically enhanced. The new Flexus Highspeed from Minebea Intec features hygienic design right down to the finest detail, and also offers faster processing speeds. The in-line checkweigher now reliably checks the weight of small packaged foods such as tinned fish, yoghurt or snacks at high speed.

Along production lines, checkweighers can often slow down the speed of production and therefore reduce its efficiency. Flexus Highspeed offers processing speeds of up to 2.6 m/s, opening up new possibilities in the food industry in terms of economy. "The success of our in-line checkweigher Flexus has shown us that hygienic design is right at the cutting edge. Therefore, when optimising the hygienic design of Flexus, it was clear that we



The new Flexus® Highspeed from Minebea Intec offers processing speeds of up to 2.6 m/s



The hygienic checkweigher has an open frame, enabling straightforward inspection and cleaning

needed to consider both product innovation and product diversification,” explains Stefanie Dahmen, Product Manager Inspection at Minebea Intec, “The new Flexus Highspeed is our response to the demand for a checkweigher specifically for weighing smaller products quickly. We are anticipating high demand in the 1 kg weighing range, and higher speeds in the weighing range up to 7 kg are of course also possible.”

Faster processing speeds, shorter cleaning times

All checkweighers in the Flexus range have been consistently developed according to the EHEDG hygienic design guidelines, in order to comply with the strict hygiene standards in the food industry. As a result, contact surfaces and horizontal surfaces have been minimised, and the need for hollowed sections has been eliminated due to the open frame. Together with the increased floor clearance, hygienic feet and a hygienic box for the pneumatics, the checkweighers thus guarantee straightforward inspection and quick and reliable cleaning. The resulting shorter cleaning times

offer additional potential in terms of economy and efficiency.

Configurable for a wide range of applications

Flexus doesn't just stand for hygienic design: the checkweighers also offer a wealth of configuration options that provide greater flexibility. This means, for example, that it is easy

to attach additional modules to the sturdy construction's upper frame. For optimal inspection in limited space, there is the Flexus Combi with integrated Vistus metal detection technology. There is also a comprehensive selection of separators and a wide range of data interfaces for seamless integration into any IT landscape.

www.minebea-intec.com

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ROTECH RF-LITE CODER MEETS THE BRIEF AT SYKES HOUSE FARM

Yorkshire butcher and meat supplier Sykes House Farm no longer has any worries about incorrect date codes after replacing a manual hand-stamping operation with an RF-Lite offline thermal inkjet coder from Rotech.

In the 1960s, an increasingly tough farming industry led livestock farmer Martin Smith and his father to look at diversification. The Wetherby farm gradually established itself as a catering butcher and Sykes House Farm is now one of the best known meat suppliers in Yorkshire, enjoying strong relationships with restaurants, hotels, pubs, schools and care homes. In recent years, the family butcher has also branched out into retail, supplying the major multiples with meat products such as sausages and burgers for sale under various brands.



Sykes House Farm is now one of the best known meat suppliers in Yorkshire, enjoying strong relationships with restaurants, hotels, pubs, schools and care homes

Originally, the company was hand-stamping date codes onto sleeves destined for retailers. This was not only a time- and labour-intensive process, but also one that was open to human error.

A date coding error that resulted in a costly product recall was the catalyst

for Sykes House Farm to embark on a search for a more reliable solution for coding sleeves for packs of bacon, sausages and burgers.

"We wanted to remove the margin for human error with a machine on which the codes are generated via software, whilst at the same time increasing the speed of the coding operation to keep pace with our growing retail business," says Robert Smith, managing director of the third generation family business.

But finding the right coder was far less straightforward than he expected.

"A lot of companies use online ink jet coders to apply date codes. We couldn't do that because with each order, the design of the sleeve is different and the coding area is in a different position. On bacon, for example, the use-by date

tends to be on the back of the pack whereas on sausages it is usually on the front of the pack," explains Robert.

After a two year search, which resulted in just one "astronomical" quote, in 2016, Sykes House Farm finally found Rotech, a Hertfordshire specialist in

coding, marking and feeding systems. Rotech's recommendation - the RF-Lite - came in at a far more realistic £7000, supplied complete with a thermal inkjet printer.

"From them on, it was pretty straightforward. We told Rotech what we wanted and sent them samples of our sleeves; they then came up with a solution - the RF Lite - and offered us a free on-site demonstration," recalls Robert.

The RF-Lite is an entry-level carton and sleeve coding system that is ideal for food packers and processors who are looking to make the step-up from a manual coding operation.

"In developing the RF-Lite, we were effectively realising our dream of driving the cost out of offline coding, without driving out the quality. We wanted to build a coder that was easy to buy, easy to set up and easy to use, bringing the benefits of automated marking within the reach of smaller food manufacturers for the first time," says Richard Pether, director of Rotech.

The RF-Lite takes flat cardboard sleeves or cartons from a hopper, feeds them through a printer so they can be coded, and stacks them again ready for use.

Robert says he liked the fact the coder was *"relatively simple, which meant there wasn't much to go wrong"*.

Also important to Sykes House Farm was the system's ability to code anywhere on the sleeve and for the position of the code to be varied with each run. The RF-Lite can also handle pack shapes and sizes ranging anywhere from 40x70mm to 300x200mm and can be easily adjusted to swap between sizes.

"It only takes a few seconds to swap between sizes by adjusting the size of the hopper. This involves loosening a screw, making the adjustment and tightening it back up - all without the need for any special tools or training," says Richard.

date," explains Richard. "At the same time, there is a facility to retrieve operator control and alter the date in the event of, say, production running a day late."

Sykes House Farm is coding around 4000 sleeves a week with the RF-Lite,

and says this takes a fraction of the time it used to take with the manual system.

"Automating our coding operation has massively reduced the amount of time we spend on coding; what used to take an hour now takes five minutes with the RF-Lite. The codes look a lot more professional than with the hand stamper - the thermal inkjet printer produces codes that are clear, clean and crisp, and, most importantly, we are now completely confident that there is no risk of packs being coded with the wrong date. It's a machine we should have bought three years ago; we just didn't know where to buy it," says Robert.

The machine's linear speed is 60m/s, which means it can handle just under 200x300mm sleeves or around 250x200mm sleeves per minute, and all on a tiny 500x500mm footprint.

Rotech delivered the coder last November, programmed to restrict operator control.

"The coder was set up to automatically generate use-by dates for each product, removing the potential for an operator to input the wrong



Automating the coding operation with the RF-Lite has dramatically reduced the amount of time we spend on coding

www.rotechmachines.com



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ADVANCING
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METEOR - UK PREMIERE OF FOUR-ARM DELTA MEAT TRAY LOADING LINE FROM BRILLOPAK

Brillopak (stand C24) has chosen PPMA 2017 as the setting for the UK premiere of its new meat produce tray loading line, Meteor. It is the first meat packing end-of-line system in the UK to integrate Omron's new four-arm Delta robot, Quattro - the fastest and most dexterous robot in the world.

OEM Brillopak, specialise in developing innovative end-of-line packing machines to load meat produce packs into retailer crates. Unlike most traditional robotic loading systems which pick and place trays in layers, Meteor loads individual trays into retail crates at speeds of up to 150ppm and with a new degree of dexterity that no layer-based robot handling system can achieve.

Brillopak Director David Jahn explains how they were approached by a leading UK produce retailer wanting to eliminate packing interruptions: "Lines that handle fresh produce such as meats are usually highly automated. As they continue to become faster and more efficient the higher throughput places

a strain on the end of line packing function. Traditionally, this process is achieved by accumulating the packs and picking and placing products into crates in layers, but if one tray is dropped or falls off the line, the interruption can cause severe periods of downtime and waste."

Although end of line packing is automated to some degree, as processing lines become faster there is an increasing need for manual labour to help match the line speed. However, it's becoming harder to recruit front-line staff and Brexit is set to make this situation even worse. Even when workers are available, the rising minimum wage also brings an additional expense. "Speed and dexterity is critical if our British retailers and packers are to automate their end of line packing processes. Flawless loading with minimal line interruptions can only be achieved with a single product pick - it's the safest way to load a wide range of retail crates accurately and why we developed Meteor," adds David.



Labour intensive manual case loading of meat will soon be a thing of the past thanks to Brillopak's Meteor

The Meteor system picks and places individual meat packs at a top speed of 150ppm. As well as incorporating the fastest Delta robot in the world, Omron's Quattro has a four-arm axis design allowing it to reach 30% further than similar sized robots and tilt the load, making it much more flexible - ideal for placing packs in tight spaces, such as retail crates.

"The PPMA show always attracts ambitious UK food manufacturers looking for progressive automation. It's the perfect stage to hold the UK premiere of the Meteor and unveil a new tray loading technique," enthuses David.

www.brillopak.co.uk

NEW MULTI-LANE METAL DETECTOR BEATS MEAT WASTE CHALLENGE

At PPMA 2017, stand A42, Fortress Technology will unveil how metal detection sensitivity accomplished by its multi-aperture innovation can deliver optimal food safety whilst helping to eradicate false rejects. Factory waste in food processing factories is a huge issue, much more so than retail even. WRAP estimates that of the 1.1 million tonnes* of avoidable food manufacturing waste generated annually, approx. 18% (160,000

tonnes) can be attributed to the meat, poultry and fish sectors. However, choices about production equipment, including metal detection and other quality control, can significantly reduce the amount of good product ending up in landfill.

Forming the centrepiece of the Fortress display is the first UK live demonstration of the company's new waste-reducing, triple-lane, multi-aperture metal



Avoidable manufacturing food waste is around 1.1 million tonnes p.a. with meat, poultry and fish accounting for around 18%, the second largest in all food sectors

* Waste and Resources Action Programme (WRAP) Quantification of food surplus, waste and related materials in the supply chain report <http://www.wrap.org.uk/content/quantification-food-surplus-waste-and-related-materials-supply-chain>

detector. Rather than channelling multiple lanes through a single metal detector, one Stealth metal detector is mounted across three conveyor lines. Each conveyor has its own BRC-approved reject system. This puts a stop to an entire row of good product being rejected and wasted if a contaminated product is identified on one line.



With a multi-aperture metal detector, potential contaminated products can be isolated by lane, reducing rejects.

"In a 5-lane configuration this technically equates to an 400% reduction in false reject waste," highlights Phil Brown, Fortress European Sales Director. Reliable industry estimates put the annual cost per production conveyor line of false rejects at up to £14,000, depending on the scale of the problem. Combining the physical waste with repeat machine stoppages,



When multiple products pass side by side down a conveyor and through a single metal detector, reject rates for good product are high.

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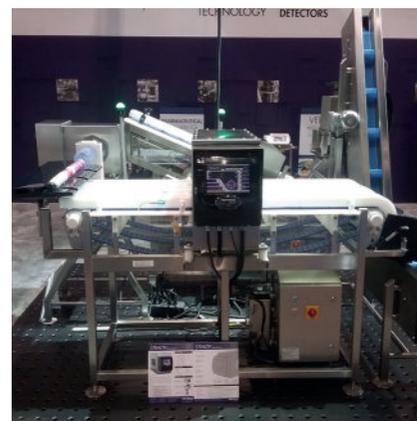
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Phil asserts that this is a conservative figure.

Having a dedicated aperture on each lane, measuring 175mm x 75mm, also means it can detect even smaller metal particles, of all types, down 0.7 mm ferrous, 0.7 mm non ferrous and 1.4 mm stainless steel. What's more, the smaller apertures cope better with orientation and product effect, again reducing the likelihood of false product rejects whilst safeguarding a meat manufacturers brand reputation. Featuring Contact data software for remote interrogation, the multi-lane unit also optimises factory floor space. This was the case with a twin lane version recently installed by Dutch bakery Borgesius where the closeness of conveyors made it logistically impossible to insert two metal detectors. Fortress created a similar two-lane installation to inspect meat burgers.

End-users can save up to 50% of the space required by individual metal detectors, plus around 17% of the installation cost. With just one system to maintain and manage, longer term, the multi-aperture device improves total cost of ownership (TCO) by over



The triple lane configuration on show at PPMA features Contact data software for remote interrogation.

65%, taking into account reduced maintenance and parts requirements.

Alongside the triple-lane system, Fortress will showcase three other key applications on its PPMA stand. They include a Stealth pipeline metal detector equipped with new Halo2 automatic test technology, an incline feed gravity metal detector, plus a horizontal Interceptor conveyor system that uses simultaneous multi-frequency technology to optimise sensitivity and inspection performance on notoriously difficult wet and conductive products like meat, fish and ready meals.

www.fortresstechnology.co.uk

NEW INK IS IDEAL FOR OILY APPLICATIONS

Linx Printing Technologies has widened its range of specialist inks with the introduction of a new formula that meets the challenges of coding onto oily surfaces. Linx Black oil-penetrating ink 1062 is able to print effectively through light layers of oil onto a wide range of materials, including plastics, metal, glass and waxy surfaces. Linx 1062 ink also provides good adhesion on Oriented Polypropylene (OPP) and



other plastic films, making it ideal for a variety of food applications.

Compatible with the full range of Linx 8900 printers, Linx 1062 ink is an MEK-based ink with a fast drying time of one to two seconds that is able to adhere to substances with an oily or greasy film to deliver reliable long-term code durability. It offers excellent contrast and legibility on transparent and pale coloured materials, and is able to resist a range of oils including engineering cutting fluid, petroleum and kerosene. Its heat-resistant properties also ensure good code legibility after autoclaving or cooking processes.

Typical applications include canned foods and packaging film for flow wrap, pouches and bags in food sectors such as meat, bakery and confectionery.

"Our new Linx Black oil-penetrating ink 1062 has identified and overcome



the perennial challenge of coding onto oily surfaces," explains Charles Randon, Senior Product Manager at Linx.

"This latest addition to our range of inks broadens the options available to our customers to ensure they can achieve consistently reliable and long-lasting codes, however challenging the application."

www.linxglobal.com

VERDAD[®] OPTI POWDER XM10 GIVES MANUFACTURERS AN EFFECTIVE, CLEAN-LABEL WAY TO INHIBIT MOLD IN HIGHER-MOISTURE MEAT SNACKS

Corbion launches the meat industry's first clean-label antimicrobial that rivals potassium sorbate for mold inhibition, even in applications most vulnerable to mold. With consumer demand for meat snacks continuing its upward trajectory, marketers are introducing an increasing array of varieties and formats, including softer, high-moisture products. But those high-moisture meat snacks and pet treats are more susceptible to mold spoilage and also helps to control the *Staphylococcus aureus* outgrowth, and the traditional solution for dealing with that challenge - potassium sorbate - is turning off a growing number of label-conscious

consumers. That is why Corbion has developed Verdad[®] Opti Powder XM10, a clean-label antimicrobial solution that is highly effective at inhibiting mold growth, in addition to providing pathogen protection and longer shelf life.

"The ability of Verdad[®] Opti Powder XM10 to provide outstanding control of pathogens and spoilage organisms is a critical competitive asset for processors," said Tom Rourke, Ph.D., Director Business Development at Corbion, "but in applications where mold control is a particular challenge, that's where it really stands out as

something uniquely powerful. Being able to tackle the mold spoilage challenge without alienating consumers looking for a clean ingredient label just hasn't been possible before now. We believe this product can really impact sales for our customers."

The company's Verdad[®] range of solutions is based on ingredients such as vinegars, ferment blends, citrus flour and natural flavor, enabling more consumer-friendly ingredient labeling while extending shelf life, improving yield and enhancing safety without sacrificing quality.

www.corbion.com

GROWTH IN GLUTEN-FREE SALES DRIVES £2.5M MANUFACTURING EXPANSION FOR DALZIEL INGREDIENTS

Work has started on a £2.5m warehousing expansion for Dalziel Ingredients, as demand doubles for its gluten-free options on bespoke seasoning blends, cures and functional ingredients.

The UK specialist is adding a new 16,000 sq ft warehousing facility - equivalent to a storage capacity of 1400 pallet spaces - at its Felling, Gateshead factory and new product development centre.

And it is installing a fourth high speed automated packing line with the latest checkweigher technology and metal detection capabilities.

Completion is expected early 2018 in a move that will add another 10 new jobs to its 100-strong workforce based in Gateshead, explained Dalziel Ingredients sales director Richard Wilson. "Our sales have grown year on year and this expansion enables us to invest in raw materials in much larger volumes to increase our efficiencies.

"It enables us to increase our production capacity to make us as flexible as possible, so we maintain the high levels of customer service we've built our business on."

Dalziel Ingredients has seen increased demand across all its seasoning blends, having expanded into new markets such as snack seasonings.

Volumes have more than doubled over the last three years for its gluten free products. The new facility expands Dalziel's capability to handle the complexities of 'free from' manufacturing, added Mr Wilson.

"We're increasing production of gluten



free products because we have the expertise in developing them and a dedicated gluten-free production line to produce them safely to the highest standards.

"The rise in gluten free means we almost need a gluten-free option for every product we develop."

All Dalziel Ingredients' products - seasonings, complete mixes, rubs, glazes, functional blends, batters, crumbs, snack seasonings, cures and brines - can be developed as gluten free, and existing products can be reformulated to be gluten free.

A wide range of the company's finished products are certified gluten-free by Coeliac UK, and are licensed to carry the Crossed Grain symbol.

The importance of this investment in the business is 'massive,' said Mr Wilson.

"As we continue to open up new markets and sectors we need to have the production capacity and

the flexibility to ensure we build on our unrivalled customer service levels."

Using traditional and authentic ingredients from growers worldwide, Dalziel specialises in creating bespoke seasoning blends and flavoured batter systems at its purpose built, BRC accredited factory in William Street, Felling.

Dalziel Ingredients has been based at its current site for over 40 years and is one of the largest employers in the area.

"Huge demand for our products and NPD capabilities means the next phase of development will be to expand our NPD function. We are proud to be investing in the area and in people, in a market where others are trying to cut back and remove cost."

Dalziel Ingredients is a division of the Dalziel Group, which has a heritage as a market leading, family owned food service specialist going back nearly 90 years.

www.dalzielingredients.co.uk

GLOBAL INDUSTRY IT SPECIALIST CELEBRATES 40 YEARS

CSB-System AG, based in Geilenkirchen near the city of Aachen in Germany, is celebrating its 40th anniversary. Starting out as a small team of consultants for the meat industry, CSB has developed into a globally active IT enterprise for the entire process industry, offering software, hardware, services and business consulting all around the world. Today the CSB Group employs more than 600 members of staff, generates an annual sales volume of 77 million euros, and is one of the largest owner-managed software enterprises in Europe.

In 1977, Dr. Peter Schimitzek was the right man in the right place. Having completed his training as a master butcher, Dr. Schimitzek went on to pursue a degree in business administration and economics and obtained his doctorate with his thesis 'Recipe optimisation for meat products'. This software program, which was designed to facilitate the implementation of guidelines for meat and meat products in 1975, was expanded ultimately to represent an ERP system, first for the meat sector, then for the entire food industry.

Today, CSB-System AG is the leading industry IT specialist for the process industries of food, beverages, chemicals, pharmaceuticals, cosmetics and trade. With its offering of software, hardware, services and business consulting from a single source, the company sees itself as an innovation partner that creates a competitive edge for its customer base.

As from the very start, the central focus of the company remains the optimisation of processes and products. "Our systems are not designed for all industries, but focused on a few to cater to their specific needs," Schimitzek explains. "With our systematic optimisation approach, we can guarantee Best Practices." The company has now



The CSB Group headquarters in Geilenkirchen

deployed CSB solutions at approx. 1,200 customers worldwide.

CSB is in use in more than 50 countries

"As industry specialists, we want to enable our customers to maintain a head start in the fiercely competitive environment of the process industry with optimised processes through IT and automation," says Schimitzek's daughter Vanessa Kröner. Kröner, along with her father represent the company's executive board, and is responsible for the areas of finance, sales and marketing. She has positioned the company in an even more global environment: CSB is active in 50 countries, with its own regional organisation in over 25 countries, and is expanding further.

The success of its customers is always a central focal point: "We're all in this together, in the same boat so to say, the customer and us. The better we are, the more competitive our customers are," says Schimitzek. This is why the CSB-System optimally maps out all business processes, from original production to the consumer and from the machine to controlling. The high degree of integration of the system is unique. This is also the reason that CSB was awarded the renowned ERP System of the Year Award in 2016.

Currently in focus: The digital networking of the value-added chain

Innovations are just as much a part of the DNA of CSB as process optimisation. CSB is known as the software pioneer in the international food industry and has produced several revolutionary developments. CSB implemented mobile business processes at a very early stage, such as mobile data capture on the shop floor. The company has also been involved in the technology of industrial image processing for more than 30 years.

CSB recognised the vast potential of cloud computing very early on, and the company has been operating its own high-security computer centre in Geilenkirchen since 2008. The CSB computer centre is certified in accordance with ISO 27001 and is being utilised by an ever-growing amount of customers. In addition, with CSB-Automation, the company has formed a unit specialised in the design of innovative automation solutions.

Currently, CSB is focusing on the digital networking of the value-added chain in accordance with Industry 4.0. "By combining software, hardware and consultant we make our customers

Industry 4.0 ready – and therefore also future-proof,” says Kröner.

All sails set for expansion

In terms of the future, CSB continues to grow. The company has generated 150 new jobs at its development headquarters and has built new training and seminar rooms. CSB is also planning new offices in Brazil, China and South Korea. “We are very well positioned globally,” says Vanessa Kröner. “This applies to our solutions as well as to the expansion of the company. We have every reason to look positively into the future.”



Dr. Peter Schimitzek addresses guests at the company’s 40th anniversary celebration.

What will the process industry look like in 10 years?

In conjunction with its 40th anniversary, CSB has published a book. In “2027 – A look back at the future of innovation”, CSB, its customers and external experts answer some existing questions about the future: Which topics will CSB and its customers deal with in the years to come? How will the food industry develop, what will be the trends in the pharmaceutical, chemical and cosmetics industries? In short: What will the process industry look like in 10 years?

www.csb.com

EUROPEAN BIOPLASTICS ELECTS NEW BOARD – FRANÇOIS DE BIE CONFIRMED AS CHAIRMAN

European Bioplastics (EUBP), the association representing the interests of the bioplastics industry in Europe, has elected a new Board on 21 June 2017 to serve a two-year term. In a clear vote of confidence, the General Assembly of EUBP affirmed the strategic direction set by the previous Board and re-elected François de Bie (Total Corbion PLA) as Chairman of the Board for a third term. Mariagiovanna Vetere (NatureWorks) and Henri Colens (Braskem) have been designated as Vice Chairpersons.

Starting of his third term as Chairman of European Bioplastics, François de Bie says: “This is an important time for our industry as the European Union has confirmed its commitment to the transition from a linear to a circular economy in Europe in which bioplastics will play an essential role. Bioplastics are a major driver for the continued change in the plastics industry towards an innovative, sustainable, and resource-efficient economy. Over the past years, European Bioplastics has positioned itself as an important and trusted player in the advancement of the bioplastics industry across Europe.



The new Board of European Bioplastics (from left to right): Erwin Lepoudre (Kaneka), Henri Colens (Braskem), Stefano Facco (Novamont), Mariagiovanna Vetere (NatureWorks), Michael von Ketteler (BASF SE), Peter Brunk (BIOTEC), and François de Bie (Total Corbion PLA). © European Bioplastics

I am honoured to assume this position for another term and look forward to working closely with the entire Board as well as our management team.”

Michael von Ketteler (BASF SE), Peter Brunk (BIOTEC), and Stefano Facco (Novamont) have also been re-elected as Members of the Board. Erwin Lepoudre (Kaneka) was elected as new Member of the Board. Peter Brunk will serve as treasurer.

“I would like to express my gratitude

to all the members of the previous and new Board for their considerable contributions to our association over the past two years”, says de Bie and adds: “The vote of confidence is a reaffirmation of our strategic decisions taken over the past years and a clear mandate to continue in this direction in our pursuit to push for a politically and economically favourable landscape in Europe for the bioplastics industry to strive in.”

www.european-bioplastics.org

NORTH EAST PACKAGING COMPANY CELEBRATES SUCCESS

A LEADING NORTH East packaging company's 21st birthday is a double cause for celebration, following a massive boost in international trade.

GM Packaging at Tyne Tunnel Industrial Estate, North Shields started off modestly selling printed carrier bags to a range of customers.

But now thanks to years of diversification and growth, the company has achieved a £2m turnover and a customer base which includes everywhere from Nigeria to Iceland.

Managing Director Graham Montague set up the business after initially working in the chemical industry, recognising a gap in the market.

Since those first days the company now offers around 1000 product lines, including fast food containers and cups.

The company supplies high profile companies including The Nuffield Group along with local authorities, hospitals and food chains such as Nudo.

"We have had a really good couple of years with some excellent growth and a huge expansion of our overseas market," said Graham.

"We now have 11 staff and are looking to recruit more and are also planning to move again into larger premises to cope with the demands."

The company also provide personalised packaging for a number of leading organisations as well as being able to corner the market in specialised, smaller volume orders.

"Because of digital technology it is much easier for people to get smaller



runs of specific items now, rather than in the past when they had to order massive volumes," said Graham.

The focus of customers has also changed in recent years, Graham revealed.

"The emphasis now is very much on environmentally friendly packaging and we sell a huge amount of recyclable, compostable items," he said.

"We are delighted to have had such a good few years and we believe we are on course for this growth to continue as we expand into more and more countries."

www.gmpackaging.co.uk

MILMEQ AND NOLAN MEATS COLLABORATE FOR PLANT EXPANSION

An enduring partnership between companies in the meat processing sector has resulted in a large-scale project built to a completely unique brief.

Food processing plant equipment provider Milmeq and Gympie-based meat processor Nolan Meats have continued their 18-year relationship in development of their new post-slaughter facility, to allow the company to chill, freeze and sort their product on site for distribution.

Milmeq assisted with the design and layout of the new facility and installation of the plate freezing component.

The project is the culmination of two years of work, from conceptual design to completion, where both parties were actively involved in every part of the process.

Milmeq product manager Roy Robinson said both Milmeq and Nolan Meats were very hands-on with their approach to the concept design.

"This was a very collaborative process, and we really enjoyed working with Nolan to ensure they were happy with the outcome," he said.

"It's not often we have the design



Nolan Meats director Michael Nolan, federal member for Wide Bay Llew O'Brien and Gympie deputy mayor Bob Leitch officially open the new additions to the Nolan Meats site.

completely finalised before installation, but Nolan recognised the importance of considering the project from all aspects and this attention to detail at the design stage allowed for a very smooth project delivery."



The plate freezers (infeed, load side) at the Nolan Meats plant in Gympie, Queensland.

The collaboration meant the project was completely unique to the client, built to fulfil their specifications.

Milmeq draftsperson Carin Mitchell, who worked on the beef slaughter plant design in 1999, said it was great to partner with Nolan again after 18 years.

"I really enjoyed working with Mike Nolan and the team; it's great to have all of that input and another set of eyes going across the design," she said.

"It really highlights Milmeq's commitment to our clients and how important it is to us to ensure we have ongoing communication, even after several years."

In line with current export requirements, Nolan Meats required a post-slaughter chilling and freezing facility to be built, in order for all parts of their meat processing operation to remain on one site.

Milmeq provided a plate freezing facility, which has the capacity to freeze 3840 cartons daily.

Unlike other plate freezers, these ones open progressively, allowing cartons of product to be placed in contact with the plates more quickly, optimising the chilling and freezing process.

The plate freezers are fully automated, and the design includes a SCADA system and CCTV, and associated refrigeration infrastructure.

They give 24 hours of guaranteed freeze time - half of the time that the more traditional method of blast freezing would require.

Other benefits that the plate freezers offer Nolan Meats include a compact physical footprint, industry-leading energy efficiency and consistent presentation of flat cartons, which provides a flow-on effect of space saving in shipping containers.

The plate freezers were tailored to meet not only the current demands of the plant, but also designed to allow for future upgrades and increases in the throughput of the plant.

www.milmeq.com



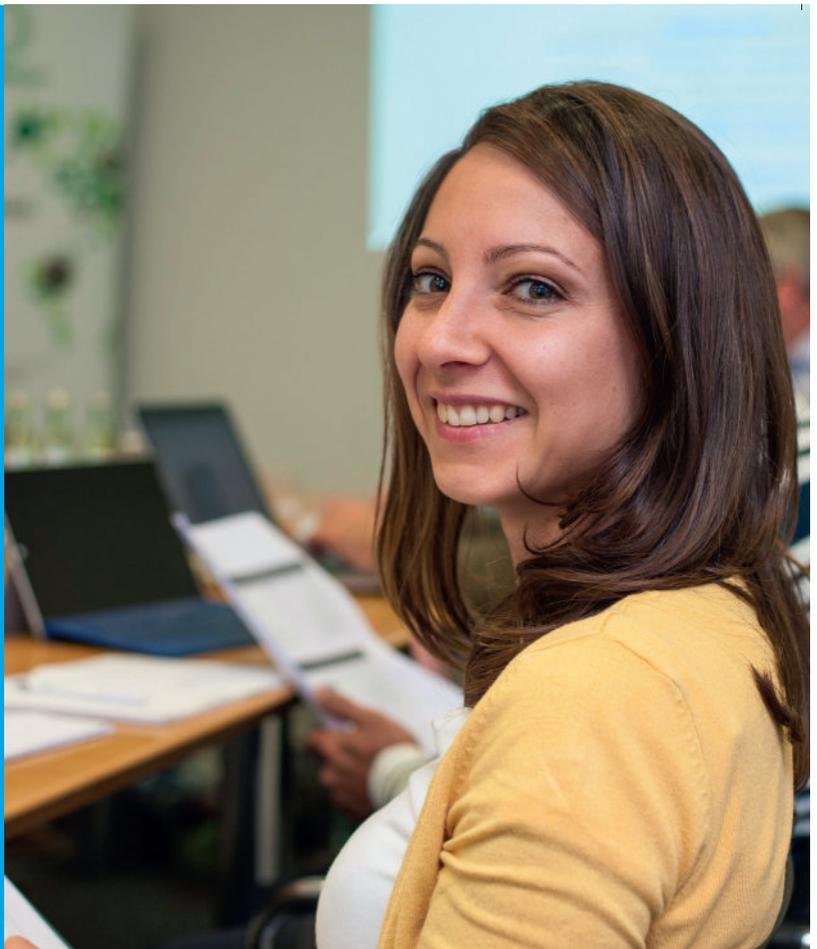
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FRESH, FRESHER, FRESH LINE

FRESH CONVENIENCE PRODUCTS FROM RAPS SET NEW STANDARDS IN MEAT REFINEMENT AS WELL AS SNACK AND MEAL CREATIONS



Fresh components such as fillings, toppings, pestos, sauces and chutneys give snacks and other dishes a finishing touch. With its Fresh Line portfolio, the German ingredient manufacturer RAPS offers unrivalled solutions for the meat industry. Meeting current demands, the range allows for clean label positionings and can be tailor-made for every customer to target a wide range of consumer groups.

In order to really convince shoppers these days, extraordinary taste sensations are the key to success. However, this does not mean that there is no demand for classic products. Rather, the art is to combine simplicity with sophisticated taste. So whether it's classic sandwiches or modern street food snacks, Fresh Line products add that "certain something" and can be used quickly and effortlessly. They are produced for individual customer demands, just-in-time and are delivered in line with cold chain requirements. In addition to satisfying the highest expectations in terms of quality, the focus is on fresh, authentic and



Fresh Line components can be delivered in versatile sizes - from convenient sachets for takeaway meals to containers.

rounded taste profiles. RAPS supports manufacturers in the development of successful formulas, from the first idea to the final product. Fresh Line components can be delivered in versatile sizes - from containers to convenient sachets.

Meat refinement on a sophisticated level

A key component of the product line are individually-quick-frozen

(IQF) pellets, which can be used as both fillings and toppings and are particularly suitable for use with poultry, beef and pork. Made by shaping cheese, vegetable or fruit preparations using special plates and then freezing them in a freezing tunnel, IQF pellets have individual weights of between 15 and 60 grams. The shape of the pellets is flexible and can be tailored to the customer's individual demands. Popular flavour combinations include curry mango and hot fruity chili.

Inner values count: appealing fillings

Delicious fillings can turn foods, snacks and other dishes into true culinary delights. Manufacturers using Fresh Line components to produce meat products, convenience snacks and ready meals can be sure that their fillings will retain their appearance, texture and taste - after freezing and defrosting, cooking in the oven or in the microwave, as well as in the pan or simply after slicing. Thanks to their incredible stability, RAPS'



Fresh Line fillings retain their appearance, texture and taste - after freezing and defrosting, cooking in the oven or in the microwave,

fresh ingredients are versatile in use. From a sensory point of view, the fillings score with their creamy consistencies and pleasant textures. A huge range of flavour varieties are available: from traditional ones such as onion-mustard to exotic options such as jalapeño or salsa, and many more in-between.

Chutneys, sauces and spreads: ensuring freshness on the plate

A flavourful taste experience can be achieved for many snacks and dishes by using spicy accompaniments. Chutneys, for example, allow fruits to be combined with spices or sweet to be teamed with sour, while pieces of fruit and/or vegetables boost the freshness factor. These ingredients are great with fish, meat and cheese products as well as in dips for chicken nuggets.

Sauces are the perfect complement for a host of hot and cold foods. Whether it's a classic "Bolognese" for pasta, a BBQ sauce for spare ribs and steaks or an exotic Thai curry the microbiologically stable Fresh Line sauces allow for a myriad of individual creations.



Chutneys allow fruits to be combined with spices or sweet to be teamed with sour. Additional pieces of fruit or vegetables boost the freshness factor.

From A for apple to Z for zucchini: Pastes are proven to guarantee versatility in the deli and convenience sector. Depending on specific customer requirements, RAPS can refine its pure pastes to suit individual demands, for example by adding extra ingredients such as salt, spices and stabilizing components. Among its portfolio of classic pastes are ginger and garlic, while Habañero and Scotch Bonnet Chili are more recent additions. Besides their outstanding taste profiles, RAPS pastes also convince with their excellent colour retention.

Individually tailored for meat applications

Creating first-class formulations inevitably requires specialist knowledge, and RAPS is an expert in developing recipes for on-trend positionings. A crucial starting point are top quality

raw materials which are then processed using cutting-edge technology. Depending on the recipe in question, raw materials are processed from coarse to fine: from 20 to less than one millimeter in size.

All samples are tested in the actual end application in order to make sure that each Fresh Line product is a perfect fit. In addition to the sensory evaluation, comprehensive technical examinations guarantee the high quality of the end product as well as a smooth transition to scale up during manufacturer production.

The RAPS experts have many years of experience in product development and work together with numerous brand manufacturers. The ingredient specialist is able to draw on a comprehensive recipe pool of more than 2,000 formulas. In line with its company philosophy, RAPS combines freshness and taste with versatility and service.

www.raps.de



From A for apple to Z for zucchini: Pastes are proven to guarantee versatility in the deli and convenience sector.

HOW TO DETERMINE SHELF LIFE OF CHILL-STORED FRESH MEAT

By Lene Meinert, Danish Meat Research Institute, Taastrup, Denmark

Abstract

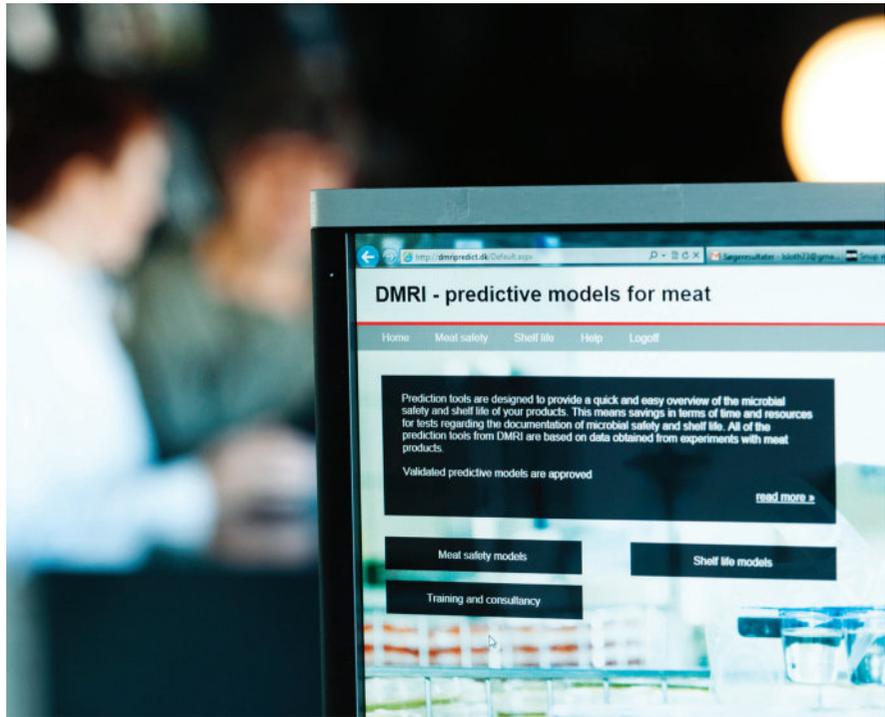
The increased demand for chill-stored fresh meat with a long shelf life poses a huge challenge to the meat industry. Understanding the processes that affects the shelf life is paramount for optimising shelf life of fresh meat and meat products. The ability to predict the shelf life of chill-stored fresh meat is important in order to ensure optimal and flexible retail distribution and to ensure good eating quality at the use-by date. It is the responsibility of the meat producers to determine the use-by date. Chill-stored fresh meat will deteriorate, primarily due to microbial spoilage and lipid oxidation. DMRI has developed a mathematical tool for the prediction of shelf life of fresh meat, DMRIpredict.dk (free of charge), with the goal to help the meat industry.

Important factors for shelf life

Overall, there are three factors of significance for shelf life of chill-stored fresh meat:

1. Temperature
2. Packaging method
3. Number of microorganisms at the time of packaging

Temperature is without comparison the single most important factor for shelf life of chill-stored fresh meat, and this applies to beef, pork and chicken. As a rule, the lower the temperature, the longer the shelf life (see also **Table 1**).



The second most important factor is the packaging method. In most cases, vacuum pack and skin pack provide the longest shelf life at any chill temperature, compared with aerobic packaging (e.g. open meat boxes used in the slaughterhouse or a wrap with oxygen permeable film used in retail) or solutions with

high-oxygen modified atmospheres (MAP). Furthermore, the advantage of vacuum pack or skin pack is very clear at low temperatures, with shelf life increasing by many days compared with both aerobic packaging and MAP. Actual examples of the shelf life of pork cuts are shown in **Table 1**.

	AEROBIC [Days]	MAP [Days]	VAC/SKIN [Days]
Shelf life at + 7 C	7	8	11
Shelf life at + 4 C	10	14	21
Shelf life at -1 C	21	36	57

Table 1. Average shelf life (days) of pork cuts as a combination of temperature and packaging method. Shelf life is here defined as the time at which 50% of the packages (meat cuts) are sensorial unacceptable. For comparison, the number of psychrotrophic bacteria is set at 2.5 log cfu/cm² at the time of packaging. Aerobic: open meat boxes or wrap using oxygen permeable film; MAP: high-oxygen modified atmosphere (70% O₂/30% CO₂); VAC/SKIN: no oxygen, non-permeable film.

The third most important factor for shelf life is the bacterial count at the time of packaging. In this context, this only concerns the naturally occurring bacteria that are present on the surface of the meat at all times. We have focused our work on the group of psychrotrophic bacteria, this group of bacteria grows well at chill storage temperatures. **Table 2** shows the shelf life of pork cuts at 4 °C using aerobic packaging or vacuum, with varying bacterial counts.

No. of bacteria	AEROBIC [Days]	VAC/SKIN [Days]
1 log cfu/cm ²	11	25
2.5 log cfu/cm ²	10	21
4 log cfu/cm ²	9	17

Table 2. Average shelf life in days of pork cuts at 4 °C in wrap and vacuum/skin pack as a function of different bacterial counts (psychrotrophic flora) at the time of packaging. Shelf life is here defined as the time at which 50% of the packages (meat cuts) are sensorial unacceptable. Aerobic: open meat boxes or wrap using oxygen permeable film;

The number of bacteria represents a very low level (1 log), a normal and average level (2.5 log) and “old” meat in the context of packaging (4 log).

The number of bacteria on the meat at the time of packaging affects shelf life. However, the significance of this effect is dependent on the chosen packaging method. This can be seen in Table 2, as only two days of shelf life are gained by reducing the number of bacteria (psychrotrophic flora) on the meat by 3 log. However, when using vacuum pack or skin pack, the difference is eight days.

In summary, the longest shelf life is obtained at low storage temperatures and low bacterial counts combined with a packaging solution that promotes shelf life, which, in most cases, is vacuum and skin pack.

Deterioration during chill storage

The two dominant processes of deterioration of fresh meat during chill storage are microbial spoilage and lipid oxidation. In general, both processes are slowed down by lowering the temperature. However, neither of the two processes is terminated, not even during deep chill storage.

genus *Pseudomonas* will normally be a dominant part of the flora after storage under conditions that allow exposure to air, whereas they are not found after storage in vacuum pack.

The growth of psychrotrophs is independent of the surface type (rind or meat) and the origin of the meat (cuts, plant and country). Furthermore, changes from “high” to “low” temperatures and changes from “low” to “high” temperatures result in the same shelf life. The growth rate of the bacteria is a function of temperature with further influence from the packaging method. **Figure 1** shows the growth of bacteria on pork cuts in vacuum pack and in wrap (Aerobic) at -1 °C (deep chill).

Lipid oxidation

The fat composition, or fat quality, has a significant influence on shelf life, and therefore also on the storage time, since the unsaturated fat content is prone to oxidation. Oxidation progresses in several stages, each stage generating oxidation products with different properties. In the early stages, the oxidation products (primary oxidation products) do not generate noticeable changes in the meat. However, later on in the process, when the secondary oxidation products form, the rancid taste and

Microbial spoilage

After slaughter, bacteria belonging to many genera can be found in fresh meat. The packaging method (especially the level of oxygen) and temperature will determine which of the bacteria present on the meat will multiply during storage. For instance, bacteria belonging to the

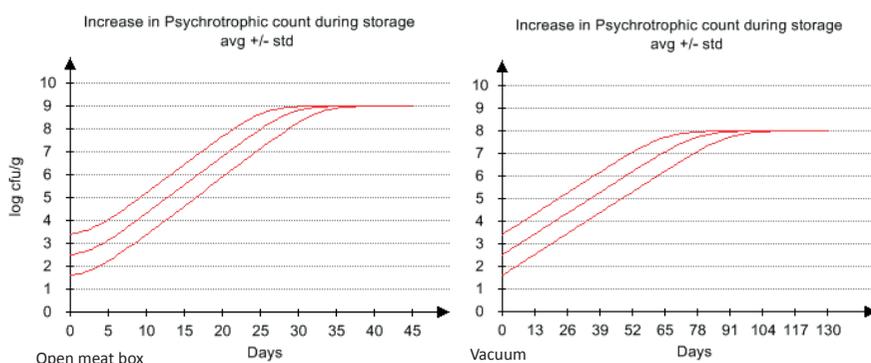
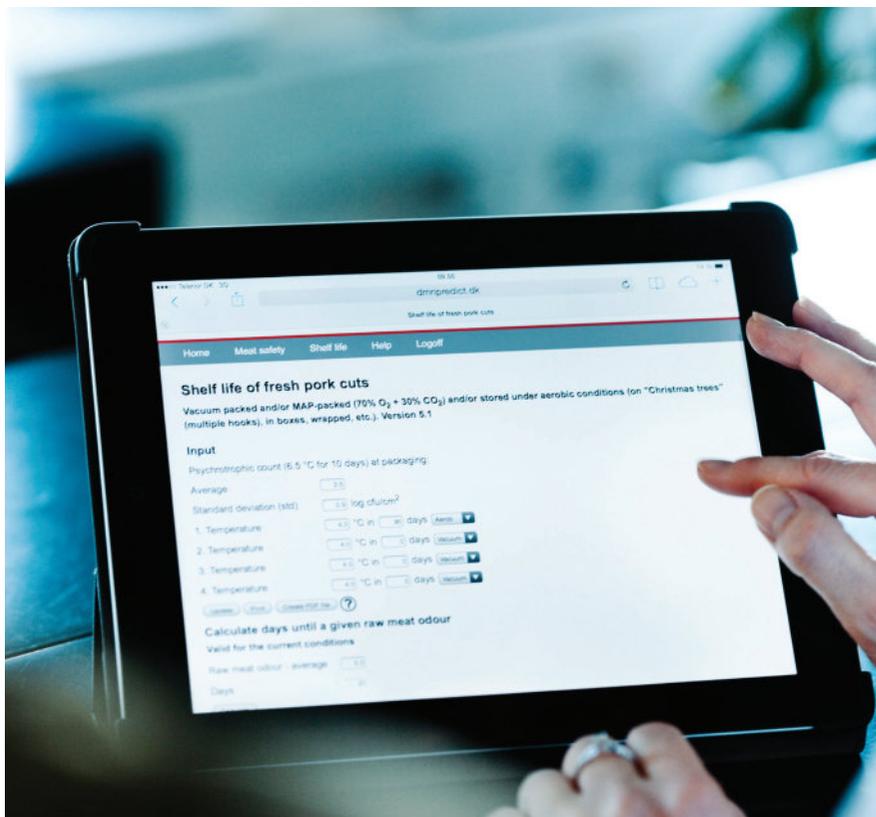


Figure 1. Growth curves of bacteria on pork cuts packed in vacuum and in wrap at -1 °C. Aerobic: open meat boxes or wrap using oxygen permeable film; Vacuum: no oxygen, non-permeable film.



protein may also be a limiting factor for shelf life.

Prediction of shelf life with DMRI predict

It is the responsibility of the meat producers to determine the use-by date. This can be both a difficult and resource-consuming task. Therefore, the Nordic meat industry's need for a tool to determine the optimal use-by date for various pork cuts led to the development of mathematical models for prediction of shelf life. During the last ten years, DMRI has developed several shelf life models for beef, pork and chicken. Each model is based on the following three factors of significance for shelf life: temperature, packaging method and bacterial count at the time of packaging. All models can be accessed free of charge from the following website: <http://DMRIpredict.dk>. During the fall of 2017, a shelf life model of processed meat products will be launched on the website.

odour will become apparent. This change in odour is used to determine the shelf life of fresh meat cuts.

How to determine shelf life

Irrespective of whether the limiting process for shelf life is microbial spoilage or lipid oxidation, both processes induce odour changes in the meat, sometimes also in combination with changes in appearance. Common odours associated with microbial spoilage are putrid, sour and rotten, while odours associated with lipid oxidation are chemical, rancid, butter-like and cardboard.

In several studies, it has been observed, and subsequently validated, that the odour is indeed the first sensory attribute to change with regard to decrease in shelf life. Everyone can use this approach, for example meat packing companies in connection with raw material control or consumers who want to check a pack of meat from the fridge.

The maximum shelf life of fresh pork

If all known factors affecting shelf life are controlled, what then is the maximum shelf life? To determine this, an experiment using pork filets was conducted. The filets, which contain only approx. 1% fat, were cut under sterile conditions, so the number of bacteria was close to zero. The filets were packed in vacuum and stored at -1°C. Throughout the shelf life, the number of bacteria was at a minimum, so no growth occurred. The meat odour did not change markedly, though it was less fresh at the end of the experiment. However, the odour did not indicate either spoilage or oxidation. The filets were cooked and then assessed by a trained panel, who detected a clear change in flavour at approx. day 65, at which point the meat tasted bitter and "old". This was linked to measures of protein degradation (free nitrogen). This finding suggests that enzyme activity that degrades

About the author:



Dr. Lene Meinert is Team Manager for the team "Product Quality", at the Danish Meat Research Institute. Lene has a master and Ph.D. from the University of Copenhagen within the field of food science with focus on sensory science, food chemistry and microbiology.

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BLANCAFORT FOODS AND SEALPAC: PIONEERS IN PROCESSING AND PACKAGING OF MEAT

What started as a small butcher in 1908 has now turned into a full service meat processing company: located in a new factory in Granollers and supported by SEALPAC packaging equipment, Blancafort Foods in Spain (www.blancafort.es) is working hard on its goal to double its production volume within five years. We spoke with Francesc X. Alcántara, Director of Operations, about Blancafort's vivid history, modern trends in packaging and how SEALPAC thermoformers contribute to the company's growth strategy.

Family company with more than 100 years of history

In 1908, the great-grandparents of Blancafort's current CEO started a small butcher shop in Vic, approximately 65 kilometres northwest of Barcelona. With four employees and a modest surface of 50 m² they slowly started to build up a reputation in the area. As a result, more and more shops were opened. Around 1950, as the second generation took over the company, the strategy changed. Instead of working with own shops, Blancafort started to supply its processed meat to wholesalers. Naturally, this also affected the way the company processed and (pre-) packaged its products. In 1990, the third generation decided to set up a 2,000 m² factory, for which it moved to the small town of La Garriga. This led to a period of extreme growth, soon forcing the company to look for expansion of its production area once again. In March 2017, with Mr. Joan Blancafort as the fourth generation in management, Blancafort Foods moved to a new 8,000 m² production site in Granollers. At the same time,



Francesc X. Alcántara, Director of Operations, proudly shows the sliced bacon pack in front of the SEALPAC PRO10 thermoformer.

to mark the start of a new era, the company logo was modernized.

Initially a small company of just family members, Blancafort today has 80 employees and a production volume of 15,000 tons per year. Only one decade ago, this was 20 employees and 1,500 tons per year. At the Granollers production site, Mr. Francesc X. Alcántara is since recent responsible for operations. As he explains: "It is my task to assist the CEO in optimizing the factory from an organizational and efficiency point of view. Off course this also applies to the packaging activities at Blancafort Foods."

Pioneer in packaging

As a result of the rapid growth of the company in the past decade, several investments in processing and packaging equipment were made. In 2011, Blancafort Foods purchased a SEALPAC RE20 thermoformer for packaging large blocks of bacon.

This thermoformer was supplied by EMO S.A., distributor in Spain and Portugal for SEALPAC traysealers and thermoformers. When in 2015 a solution was needed for the packaging of sliced bacon, a SEALPAC machine was the obvious choice again. At that time, SEALPAC had just introduced a new range of thermoformers, the so-called PRO-series. These PRO-series thermoformers are characterized by their extremely small footprint, hence requiring minimum space in the production area. Nevertheless, they also have an extremely large loading zone.

Being a pioneer in its own field, Blancafort had no doubt whether to invest in this new type of thermoformer. Alcántara: "The excellent performance and low maintenance requirement of the SEALPAC RE20 gave us a lot of confidence to buy the additional PRO10 thermoformer. Less than 1% of all the machine stops had been related to technical issues. In my experience, at least 50% of the



decision to invest in a specific brand of equipment should be based on technical experiences, which is why we always appoint engineers in our decision making unit. Furthermore, because I previously worked at the company Noel Alimentaria that owns a large number of SEALPAC traysealers and thermoformers, I was familiar with the quality of the brand.”

SEALPAC PRO10 thermoformer

The PRO10 is the smallest of the SEALPAC PRO-series thermoformers, specifically designed to run flexible film vacuum packs. At Blancafort Foods, frozen bacon blocks are placed in a Treif slicer and manually loaded



Twelve flexible film vacuum packs leave the discharge area of the thermoformer every minute.

in the formed packs on the PRO10. Due to the large loading zone that is accessible from both sides, either one or two employees can take care

of the product loading. Running at approximately 6 cycles per minute, twelve packs leave the discharge area of the thermoformer every minute.



The space-saving SEALPAC PRO10 thermoformer with Treif slicer at Blancafort Foods.



Easy product loading due to the large loading zone of the SEALPAC PRO10 thermoformer.

Lactose free and gluten free

Blancafert acquires around 90% of its meat from the region, but always from regularly audited suppliers that meet the highest food safety standards. Focus is on meat products that are lactose free and gluten free, as well as low in salt level. Alcántara: "Research has shown that one in every four people suffers from an allergy, mostly due to lactose or gluten. As we want to keep our meat products accessible for everybody, we decided to focus on the processing of meat that is lactose free and gluten free. In addition, we see an increasing demand from consumers for healthier products that contain less salt, as well as less fat."

The company primarily supplies its products to the catering industry. A small but growing business is organic

meats, which are now also supplied to several retailers. By introducing these organic meat products in 2000 already, Blancafert became a true pioneer in the country. If asked about trends, Francesc X. Alcántara mentions the growing demand for pre-cut meats. And with the segment of organic products on the rise, Blancafert is now also looking at new packaging materials. Alcántara explains: "We supply an ecological product in packaging made of plastic, which cannot be recycled. This is somewhat of a contradiction. Therefore, we are looking to see if we can apply degradable films, such as produced from rice pulp."

Double the production volume

Approximately 80% of Blancafert's products remain in Spain, while export

takes place to France, Portugal, Malta, Lebanon and Cuba. The volume of these export activities is expected to increase in the coming years. As Alcántara concludes: "Now that we have moved to our new production facility, it is our goal to double our turnover within five years. First, we want to produce even more meat products ourselves, such as the mortadella that we now purchase elsewhere. Second, we will increase the number of countries that we supply to. Here, we have a particular focus on Latin America and countries with a large influx of tourists. Last but not least, we will increase the efficiency of our factory by investing in further automation, for example in the area of freezing, cutting and packaging. This is where I expect EMO and SEALPAC to support us again!"

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- Sports Nutrition, Wellness & Lifestyles
- Food: People, Planet, Profit
- Glutenfree Protein Solutions
- Societal Food
- Diabetes T2: From Bad to Worse
- 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 liquors, cheese analogs.

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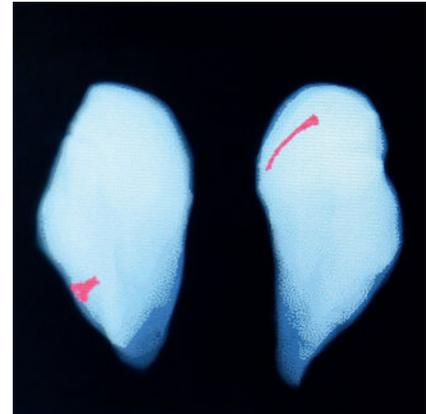
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SUPERIOR BONE DETECTION WITH SENSORX

When it was launched in 2006, the Marel SensorX set a new standard in bone detection for poultry processors around the world. In the meantime Marel has not rested on its laurels but has continued to improve on a popular concept. The company's drive to achieve the ultimate in quality, a wholly bone-free product, is perfectly in tune with today's emphasis on food safety. Its latest step forward virtually eliminates false positives, an unwelcome distraction in bone detection, while detecting difficult to find bone fragments even more accurately.

Marel has become the market leader in bone detection for poultry, giving food processors a peace of mind, providing a safer, more valuable product. The SensorX is much more reliable and consistent than any other inspection, manual or automated. It detects bone fragments with great accuracy, thus ultimately improving food safety, product quality and helping producers maintain their brand image and reputation for a quality product.



Food safety

Consistently high levels of food safety are of vital importance in the poultry processing industry. The SensorX bone detection system is an efficient and cost effective way of detecting and removing bones and bone fragments from poultry products. It enables poultry processors to reach a higher level of product quality than ever before possible.

Down with false positives!

For poultry processors, the ideal X-ray detection machine should detect bone

remnants and other contaminants with the very highest degree of accuracy. What processors don't want is a machine which gives too many false positives. In this situation, bone performance detection swtstatistics, though looking impressive, will not reflect the true situation and could be misleading for departmental management. Marel's latest SensorX software not only reduces the incidence of false positives to an absolute industry minimum but also detects those difficult to find bone fragments more accurately. This means less rework and fewer inspectors, enhancing still further the machine's already excellent performance.

SmartSort

The SensorX is suitable for all non-frozen and non-brined poultry products that are to be delivered boneless to the end consumer. It can be integrated with all major poultry deboning systems. Adding the SmartSort discharge unit after the SensorX creates a smart system that combines X-ray bone detection and grading in one compact solution. The SmartSort uses the weight information from the SensorX to gently divert products into a crate, a combo or onto a conveyor. It requires less product separation and can perform grading at line speed, eliminating any need for a speed-up belt or a separate weighing



unit. The SensorX SmartSort System saves valuable space while maintaining very gentle product handling. Together, the SensorX and SmartSort deliver a safer and more valuable product from the deboning process.

Real time monitoring

Innova, Marel's Food Processing Software, offers the most effective control of the SensorX. It ensures reliable data collection and provides yield indication with SensorX weighing, enabling full traceability throughout the production process. Innova provides real-time monitoring of key performance indicators (KPIs) such as yield, throughput, quality, capacity and labor efficiency. These valuable



insights enable processors to identify opportunities for improvements, while ensuring that the production conforms to quality and food safety standards.

Market leader

As of this moment, hundreds of SensorX systems are in operation with high-end poultry processors in some 40 countries around the world. Marel has become the market leader in bone detection for poultry; continuous improvement can

only serve to strengthen this position still further.

"Our SensorX continues to be one of our most successful machines we offer since its inception in 2006. Today, the industry counts on us to help deliver high quality and safe products to its consumers. We continue to develop its capability and further innovate solutions in front and back of the machine," says Einar Einarsson, President Marel Inc.

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OVER A CENTURY OF SUPPORTING ANIMAL WELFARE

What started as one man's commitment and desire to change the way the animals were being treated at death, has also led to over a century of reform in welfare over the course of their lives.

The pioneering work that laid the foundation of the reform is attributed to Christopher Cash (1864-1925).

He travelled across Europe with independent means, looking at methods of animal dispatch within abattoirs.

Christopher Cash shared his pioneering animal welfare ideas with an engineer and gunsmith James Accles, and partnered with industrialist, George Shelvoke to form Accles & Shelvoke Ltd in 1913.



Together, these three innovative individuals created a company whose roots are sown deep in Birmingham, England and has a growing reputation across the globe for reliable and precision-made humane animal stunning tools.

As an homage to the originator of the idea, all Accles & Shelvoke humane stunning tools were branded CASH - a name that is to become synonymous with effectiveness and reliability in the humane stunning of animals.

Developing Humane Stunning

Christopher Cash was amongst a small group of people who were concerned about the methods being used to slaughter animals for food. The group, known as The Council of Justice to Animals (CJA) in 1911, has now become

a globally recognised authority on the humane killing of animals - the Humane Slaughter Association (HSA).

Christopher Cash campaigned for improvements in slaughter and public health, writing a book 'Our Slaughterhouse System: A plea for Reform' that included a translation of the abattoir system used in Germany by Hugo Hiess.

The HSA has been responsible for many of the early reforms, the foremost among them was to replace the pole-axe with a mechanically operated humane stunner.

Christopher Cash started developing ideas for a 'mechanical pole axe' following experimentation with captive bolt devices in Europe. Teaming up initially with Albert Thompson in Coventry to develop the idea of a spring powered mechanical pole axe, which was patented in 1912.

The development of what we know today as a captive bolt pistol began in earnest when Christopher partnered with James Accles to produce workable models.

Demonstrations were given to slaughtermen all over the country and hundreds of humane stunners were distributed free of charge.

In 1910, Christopher Cash had 4000 animals across 30 butchers killed using humane methods, offering to compensate the owners should any contamination be

found within the carcasses. HSA also petitioned doctors for their support to counteract any such fears amongst the meat traders and consumers.

In the early 1920s, the HSA carried out an eight-month demonstration of the humane stunner at an Islington slaughterhouse. As a result of the Association's work, humane stunners were adopted by 28 London boroughs and later by 494 other local authorities.

Christopher Cash, as part of his campaign to promote animal welfare also produced pamphlets, including 'The Humane Slaughtering of Animals for Food' published by the Royal Society for the Prevention of Cruelty to Animals (RSPCA).

Promoting Animal Welfare Overseas

As early as 1924, the HSA travelled to Greece and Italy to press for improvements in animal welfare. In 1950 a joint project to fulfil the terms of the bequest was set up between Miss Sidley, General Secretary of the HSA and Mr Shelvoke, then Managing Director of Accles & Shelvoke Ltd.



Stunning a bull with CASH Pistol

Slaughter demonstrations were arranged and carried out at Canada Packers by an expert slaughterman. As a result, the Canadian Parliament later passed regulations enforcing the use of humane methods.

The Humane Stunners

The first production version of the CASH mechanical poleaxe was accepted for use and endorsed by the RSPCA in 1913.



Over the following years the pistol shaped design has had many iterations which have included the CASH 246 (1920s - 1930s), the Cash X (1940s - 1960s) and the Supercash (1967 - 1975), followed by its second version from 1975 to 1981.



In 1981 the CASH Special was introduced. The ergonomic and efficient design has been the mainstay of pistol shaped captive bolt stunners ever since and is the world's most popular cartridge powered stunning tool in use today. It is also the single most successful tool made by Accles & Shelvocke.

Approximately 1,500 of CASH Special are manufactured in a year. There are



thousands of these out there across the globe, in five different versions with two different calibres. It is the most popular and reliable cartridge powered captive bolt stunning tool in use today.

The CASH Special is part of a range which includes cylindrical designs, concussion heads, automatic retracting bolts, free flight bolts, contact fire and trigger fire options.



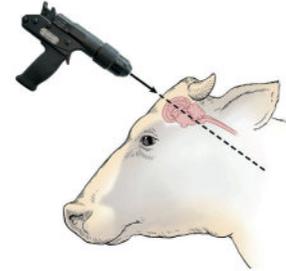
The various options in shape and function have served the company well in different parts of the world, where certain designs have proven more popular than the others. In northern Europe for example, the cylindrical shaped CASH Magnum has been a popular choice, while southern European countries favour the pistol shaped CASH Special.

The company also sells over 20 million cartridges a year, all of which are CIP approved to meet firearm safety requirements.

The Mechanism of Humane Stunning

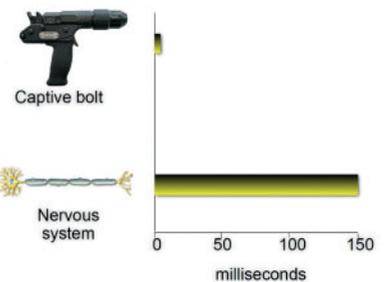
The mechanical stunning takes place when the animal skull is impacted by the fast-moving bolt of the stunning tool, propelled by the explosion from the cartridge. The impact accelerates the brain inside the cranium where it is floating in a fluid. The rapid variations

in pressure cause shearing forces in the brain leading to massive disruption of brain activity. This disruption concusses the brain and causes a stunned state.



Penetration is not important in producing an effective stun. However, penetrative stun can prevent recovery, provided the trajectory of the bolt destroys mid-brain region.

The full cycle of a captive bolt at 110 mph is 1.2ms - 1.5ms, whereas it takes 150 milliseconds between a painful stimulus and perception of pain by the brain. Therefore, the concussion by a captive bolt takes place 100 times faster than the time taken by the brain to feel the application; thereby, producing an effective and immediate stunning.



It is the quickness of operation and the immediate effectiveness of its application that made captive bolt stunning a popular choice, and its longevity over a century is a testament to its reliability.

Newer methods of stunning have evolved over the last century, such as electrical stunning, gas stunning and controlled atmosphere stunning; however, they require expensive set-ups and are not portable.

Moreover, there is debate around their effectiveness in producing instantaneous insensibility, which raises the question over stress and pain the animal undergoes before losing consciousness.

Accles & Shelvocke believe, there is no excuse for cruel slaughter, when they provide a tool that is humane.

Accles & Shelvocke and Animal Welfare

Accles & Shelvocke takes its animal welfare very seriously and trains its staff on Animal Welfare Officer (AWO) course offered by the University of Bristol.

The AWO course is a 2-day residential training course looking at the key animal welfare and quality issues from the end of production to the end of primary processing. It includes presentations and discussions to focus on the background science, current legislative requirements and practical detail based upon the EU legislation (EC 1099/2009) and underpinning the current welfare research.

Certificate of Accreditation Animal Welfare Officer

Accles & Shelvocke working relationship has continued with the Humane Slaughter Association and now also includes other bodies working in animal welfare and promoting humane slaughter practices.

The company was invited to the House of Lords in London last year as industry representatives, which has brought immense pride to its employees.

The Global Manufacturing Hub

From an 18,000 square feet building located in Birmingham in the UK, Accles & Shelvocke supplies its humane stunning equipment to 44 distributors around the world and ships to over 60 countries, including the United States, Australia, China and across Europe.



Every tool that the company sells is built from scratch in its factory. The human resource producing these precision-engineered tools consist of 21 employees, many of whom have been with the company for several years.

Raw materials come in boxes and are turned into specific parts using modern CNC machines, which are then assembled by skilled craftsman who create the final product.



The company is a certified branch of the Birmingham Proof House, which means it has its own Proof Master. All tools are rigorously tested and then stamped with the British standard proof mark to show they are safe and fit for use.



The company attributes its success to its innovative engineering solutions, rigorous performance testing, investment in new products, and the assurance of the most reliable cartridge powered tools in the world.

A new chapter

Over the course of the last century, Accles & Shelvocke has been around 2 World Wars, diversified into another industry, bought its rival and changed hand several times.

But, at its core, it has always been, and continues to be, the leading manufacturer of cartridge powered captive bolt tools for the humane stunning of animals before slaughter.

And it was this leading position at the beginning of the meat processing supply chain that attracted FRONTMATEC group to acquire Accles & Shelvocke on 28 April 2017.

FRONTMATEC

FRONTMATEC is a leading global supplier of customized equipment, solutions and software for the red meat industry. Its customers include major producers such as Tönnies, Group Bigard, WH Foods, Tyson Foods, Miratorg and Danish Crown, and has operations in Denmark, the Netherlands, Canada, the US and China.

Previously part of the target shooting ammunition manufacturer Eley Group, Accles & Shelvocke now belongs to a group that is firmly embedded in the meat processing industry.

The ownership of Accles & Shelvocke by FRONTMATEC begins a new chapter in the rich and successful history of the company. It also presents an exciting opportunity to further develop

the business as part of a leading organisation in the food industry.

FRONTMATEC will be looking to develop and build the company through continued investment and support. It is exciting times ahead for Accles & Shelvoke, as the new owners aim to facilitate new product development and expansion into newer markets.

Looking into the future

Accles & Shelvoke is looking into the future with enthusiasm and optimism.

Its vision for the future embraces innovative ways of doing things - be it manufacturing, design, sales or marketing.

The manufacturing hub in Birmingham is key focus of the company. With everything designed and manufactured in-house, it is looking at product development in-house too. Accles & Shelvoke want to be at the forefront of leading the development of the next stage in their industry

The cartridge powered captive bolt stunners have undergone a lot of evolution over time, and the basic design is very much established, but the company feels there is room for further improvement in the usability and scope of their tools.

Accles & Shelvoke has a global presence with an estimated 60% of the world market for the cartridge powered captive bolt stunning tools,

but plenty of opportunity still exists in Russia, China and South America where the animal welfare regulations are still under development.

The global trend in increased meat consumption and adoption of welfare practices through education and regulation is only going to improve requirement of humane stunning tools, and this is where Accles & Shelvoke will find their opportunity to grow.

Marketing has been given a renewed focus with the appointment of a new Marketing Executive to promote the brand reflecting its rich history and heritage, as well as the high quality of its tools and the humane aspect of the business.

The company is looking to reinvigorate the brand by adding lots of fresh elements, including updated user manuals and, a new interactive e-commerce website with new features, such as training videos on the usage and maintenance for all the tools.

It is supporting its global distributor network with translated versions of the user manuals in several foreign languages to cater to the non-English speaking customers.

It also organises regular training days for the distributors at its headquarters in Birmingham, UK covering all aspects of usage and maintenance of the stunning tools. The distributors are kept abreast with the latest development at the company through regular e-newsletter covering news, product developments, PR and advertising etc.

The company is also reaching out to a wider audience through its presence on popular social media channels of Facebook, twitter, LinkedIn etc. where the updates include latest news about the company and promotion of animal welfare practices championed by its tools.

ACCLES & SHELVOKE THROUGH THE YEARS

1903 - The firm Bennett's Successors Ltd. was formed on 1 October by J. G. Accles and 6 other persons.

1913 - J. G. Accles started manufacturing the captive bolt stunners at the Talford Street Works, Aston, Birmingham in conjunction with G. E. Shelvoke.

1914 - On 14 January Bennett's Successors Ltd was changed to Accles & Shelvoke Ltd.

1914 - Manufacturing was interrupted by start of the First World War in July.

1922 - Electrical Power Engineering Co (Birmingham) Ltd took over Accles and Shelvoke Ltd.

1937 - Started manufacture of aircraft components in addition to making the humane slaughtering equipment.

1939 - Carried out considerable work for the aircraft industry and also a small amount of work for the naval industry - aviation and marine flare signal pistols and repetition machining for aircraft.

1952 - Developed the ACVOKE Cable Spiker in cooperation with the Central Electricity Generating Board.

1961 - Accles and Shelvoke Ltd was taken over by the Wolseley Hughes Group.

1980 - Management buyout from Wolseley Hughes Group.

1987 - Acquisition of the Temple Cox Co maker of the Cox bolt driver.

1993 - Eley Limited, a subsidiary of IMI plc, acquired Accles and Shelvoke in June.

2014 - Eley became ELEY Group and included Eley Ammunition and Accles & Shelvoke.

2017 - On 28 April FRONTMATEC acquired Accles & Shelvoke from the ELEY Group.

SOCIETAL FOOD: GLOBESITAS

By Henk Hoogenkamp

In the Western world, the obesity problem is fostered by a food environment that encourages people to eat more frequently in more places, in larger amounts, and at any time of the day. About one-third of adults in the US are obese, which is roughly 15 kilos or more over a healthy weight. To top it off, one-third of children and teens are overweight or obese, which can be considered a precursor for degenerative diseases later in life. For the developed world and affluent societies, obesity has grown into one of the great public health epidemics of our time.

Although there is an urgent need to tackle obesity, no effective medical treatment is available, and countermeasures are limited to individual efforts, such as maintaining a healthy lifestyle including dietary restrictions and physical activities.

No End in Sight

Overweight is defined as having a Body Mass Index (BMI), or weight-to-height ratio, greater than or equal to 25 and lower than 30 while obesity is defined as having a BMI equal to or greater than 30. Super obesity starts at 35, and morbid obesity at 40. The BMI is calculated as weight in kilograms divided by the height in meters squared.

The proportion of the US population that is overweight or obese has increased very rapidly in recent decades, and excess weight is a well-established risk factor for cardiovascular disease, cancer and diabetes T2.

BMI Not a Catchall

The severity of the global obesity

pandemic is well documented, including the dangers and prevalence of overfat, or the presence of excess body fat that can impair health, even for non-obese people with a “healthy” BMI. The latter is especially true for individuals with excess abdominal overfat –the unhealthiest form of body fat.

On average, the prevalence of overfat adults and children in developed countries is very high, and substantially greater than that of overweight and obese people. Actually, medical doctors should look further than just BMI. It is known that BMI has a rather limited diagnostic performance in correctly identifying individuals with excess overfat, with BMI missing more than 50 percent of the people with obesity as defined by body fat percentage. These diagnosed people have a high degree of cardiometabolic dysregulation that can promote disease risk factors and chronic disease, increased morbidity and mortality and generally speaking, a reduced quality of life.

Measuring the BMI of Babies

The pathway to obesity can be identified in babies as young as six months of age. BMI measurements can be used to single out infants destined to struggle with weight later in life. Many of the identified children have a high lifetime risk for persistent obesity and metabolic disease and should be monitored closely at a very young age. (Dr. Allison Smego, Cincinnati Children’s hospital, Ohio US).

Obesity is mainly established early in life, and it continues through adolescence into adulthood. Combating the obesity epidemic must start with children. About 5 percent of children and teens in the US are severely obese.

The heaviest children in the US have higher rates of T2 diabetes, high blood pressure, high cholesterol, liver disease, musculoskeletal problems, sleep apnea, and early signs of clogged arteries. These symptoms are only the beginning, as evidence proves that severe obesity in childhood is a strong indicator for morbid obesity in adulthood. While life expectancy is at an all-time high with 78.8 years, the past 25 years have shown a steady rise in chronic conditions –many of them preventable- that compromise the quality of life.

It is not a stretch to say that being overweight is becoming the new normal. According to a 2011 study in the Archives of General Psychiatry, about 6 percent of young people have eating disorders. The Centers for Disease Control and Prevention (CDC) states that 55 percent of high school girls and 30 percent of boys have eating disorder symptoms, such as using diet pills and laxatives, vomiting, fasting, and binge eating. Eating disorders have the highest mortality rate among mental health illness, and treatment requires medical, psychiatric, and nutritional intervention.

Beauty is in the eye of the beholder, and this is probably why an overwhelming number of parents of overweight or obese children do not recognize that their offspring does not fit the normal pattern of body weight.

Is it possible that the more the anti-obesity message is enforced, the more children and young adults are pushed into eating disorders? Is there too much focus on size and/or weight instead of health? A fit teenager halves the risk of suffering a heart attack later in life, even for people who are not

athletic. The more aerobically fit adolescent people are, the less likely they are to have a heart attack 30 or 40 years later. The link between fitness in adolescence and the risk of a heart attack is not affected by body mass index. It is more important not to be overweight or obese than to be fit, but it is even better to be both fit and have a normal weight (European Heart Journal, 2014).

Children Obesity

If current trends continue, some 270 million school-aged children worldwide will be overweight by 2025, including 90 million who have obesity (The World Obesity Federation -Pediatric Obesity, October 10, 2016).

Until to date, no single country has managed to turn around its obesity epidemic in all age groups. About 80 percent of child overweight and obesity occurs in developing, low- and middle-income countries, where health services are also likely face rapid increases in demand for treating

chronic diseases such as heart disease, fatty liver disease, diabetes T2, and hypertension -all of which- are predicted to have a negative impact on economic productivity.

The low- and middle-income countries have the least resources to treat obesity and thus are likely to have the greatest burden. The present (childhood) obesity epidemic is unsustainable and doing nothing is not an option.

Urbanites

According to the UK's National Health Service (NHS), obesity affects one in every four adults and around one in every five children aged 10 to 11 in the UK. In the UK already a third of children are too fat by the time they leave primary school. Without a stricter dietary regimen children will be condemned to a lifetime of illness ranging from heart disease, diabetes to cancer. Meanwhile, the WHO calculated that worldwide obesity has more than doubled since 1980. In 2016, almost 2,0 billion

adults are overweight, of which 600 million are obese.

If current trends continue, 2.7 billion adults worldwide will be overweight or obese by 2025. Current trends suggest 177 million adults will be severely obese by 2025 and will be in dire need of medical treatment (World Obesity Federation, October 2015). Governments are acutely aware that the present epidemic is unsustainable, especially as the crisis has now reached virtually every country in the world.

The developing world is not far behind when it comes to being rich in overweight people. About 30 percent of the world population is either obese or overweight. This equals a staggering 2.1 billion people. 13 percent of these 2.1 billion people reside in the US. China and India account for 15 percent of the world's obese population. Particularly high rates of child and adolescent obesity are seen in the Middle East, North African countries, the Caribbean and the Polynesian island nations in the Pacific, most notably among girls.



In the past, obesity only occurred in affluent societies. Overweight and obese people can now be found across all nations. As a matter of fact, two out of three overweight people live in a developing country. The rise in global obesity rates since 1980 has been substantial and widespread, presenting a major public health epidemic in all circles of society. Despite the many health initiatives by concerned governments and health agencies, society is failing to curtail the obesity epidemic that exacts heavy tolls on health and greatly increases the costs of medical care.

The Blame Game

Most people believe individuals themselves –not government or food companies– are primarily the ones to blame for the rise in obesity. Ultimately, it is people who need to take responsibility for their food and lifestyle choices like exercise activities.

Certain obese individuals clearly display addictive-like behavior towards food. It can be expected that, in the future, food addiction will probably achieve a formal diagnostic status, although it remains debatable whether the addictive properties are identical to those of drugs, such as cocaine, alcohol or Internet gaming.

Demographic changes, including dynamic societal diagnostics, have compounded the problem of the obesity epidemic. In the US, some 25 percent of daily calories are consumed away from home, more than triple the amount in 1975. The out-of-home calorie consumption keeps growing. It is nearly impossible to know how many calories are being consumed in a restaurant, especially because serving portions have ballooned to unprecedented levels. Just think of bagels, muffins, yogurt, and latte.

Health experts believe that the large

portion sizes and unhealthy ingredients are significant contributors to the obesity crisis, which now is also starting to appear in developing countries switching to unbalanced calorie-laden diets. To help combat the obesity epidemic, it is highly likely that the US FDA will require chain restaurants, food and beverage vending companies, alcohol and beer companies, movie theaters as well as certain prepared food take-out foods to post calorie counts on the packaging or the menu boards.

Food Industry Dilemma

Obesity began to spread sometime in the 1960s, with the rise in hidden calories packed in processed foods, as well as a decline in meals prepared and eaten at home. Between 1970 and 2010, the total daily calories consumed by adults increased from 2,086 to 2,534, a whopping 22 percent increase (USDA).

Paradoxically, people in affluent societies



who are insecure of food are at greater risk of obesity, which often goes hand in hand with nutrient deficiency. Or to put it differently, overweight or obese people don't appear malnourished but do lack essential and balanced nutrients such as protein, vitamins, and minerals. These imbalances are causing epidemic social health issues across affluent societies.

It is a rather weird phenomenon that in the developed western world there are increasing numbers of people admitted to hospitals for malnutrition. There is a clear parallel between malnutrition and poor nutritional intake. Consumers should be encouraged to take an all-round holistic approach in linking healthy eating and the consumption of adequately balanced portions. In other words, over-eating large amounts of healthy foods can be as detrimental as under-consuming overprocessed food containing inferior fat and sugars.

Cookless Society

There is a lot of truth in the statement that the collapse of home cooking has led directly to the obesity epidemic. An increasing number of people eat away from home, and the substance of these meals is often translated to bountiful and calorie-rich portions.

For many, the time factor is the most precious component in life. In industrialized countries, affluent consumers would rather buy time than prepare food from scratch. Convenience is the most dynamic variable. Consumers are willing to pay more for convenience as their lifestyle changes. This is especially true for consumers climbing the income ladder and for professional dual-career parents who have the luxury of more disposable income.

Although the majority of consumers say they want to eat healthy, in reality,

they do not buy healthy or are simply not willing to pay for healthy. There is no question that people interpret "healthy" differently. Looking at consumers' purchasing patterns, it becomes clear that the majority have difficulty understanding nutritional labels on food packaging. Consumer-friendly nutritional information on a food label can be a powerful tool if presented in an easy-to-understand format.

It is safe to assume that at times, consumers' desire for an indulgent treat will win out over the need for a healthier option. Because of the pressures of everyday life, consumers will still want to treat themselves to premium and luxury calorie-laden foods as an indulgent reward.

Weird

It is a weird phenomenon that people in developed and affluent societies are increasingly health conscious, as it gets increasingly fat. Part of it is due to technological developments in changing what consumers can purchase 7/24 and store seemingly unlimited quantities of food in refrigerators and freezers. Another technological advancement such as tv and computers has caused the sales of chips, crisps, ready-meals, and pizza to skyrocket. Consumers are also cooking less and instead prefer to eat out cheaply overprocessed food in places where large portion sizes are served. The so-called health conscious drive is belied by burgeoning rates of diabetes T2. Consumers clearly want quick health fixes and many don't take the effort to make long-lasting steps to eat fewer high calorie foods and drinks and engage in more physical activities.

Cook-free

Throughout many generations, mothers have passed on food knowledge and cooking skills to their daughters.

Women instinctively know what is best for their children. With societies often adrift, it can be expected that these empirical skills will suffer dramatic decline and setbacks. In fact, many girls born after 1980 in affluent societies lack very basic cooking skills, which quite often translates to purchasing overprocessed and "ready-to-eat foods." These foods typically pack higher amounts of calories compared to home cooking and suffer the absence of fresh vegetables and fruits.

There is a distinct trend developing that Millennials (1982 - 2004) in affluent societies are starting to think about what to have for dinner only a very short time before they plan to eat. Yet, at the same time, they are more health conscious and increasingly opt for natural food solutions that are minimally processed. This trend is an opportunity for new food companies while often a main stumbling block for the legacy mammoth food companies who often are slow to adjust their portfolio and marketing strategy.

Forward Trends

There is a subtle but distinctive trend that a growing number of modern and affluent consumers are changing to a healthier lifestyle as opposed to restricting their habits through dieting. Modern consumers define their own diets by putting more focus on the purity and authenticity of the foods they eat, while worrying less about total calories. Instead of worrying less about caloric intake, they now focus on avoiding sugar and sodium.

Millennials especially seek out foods that have had minimal processing. Part of their decision making process is the avoidance of "unnatural sounding" ingredients and additives such as artificial sweeteners, high fructose corn syrup, preservatives, and genetically modified organisms (GMO). Another major change is that in affluent societies,

over 50 percent of consumers are now using an App on their smart phone to track caloric intake.

People's love affair with food is changing - it may be good for some and bad for others, depending on whose point of view. Looking at the success story of Whole Foods (own by Amazon), a pattern emerges: meat consumption is down, cola consumption is down, milk consumption is down, and organic and natural, minimally-processed foods are up, with more people expressing concern for GMO, animal welfare, certain additives, and pesticides. Also, "free-from foods" are emerging with no gluten, no white flour, no white sugar, no trans fats, no soy, and no high fructose corn syrup." Some of these claims are partly "fashion" and partly "faddish." Some of the trending foods at the beginning of 2017 are: relaxation, detoxification and true weightloss.

There is an ongoing race right now of which of the fast food companies will be the first to remove all antibiotics, hormones, artificial flavors, preservatives, colors, and additives from its food. Product

personalization and individualization will result in innovative food concepts. An example of this is the removal of chemical-sounding additives, such as artificial preservatives, dyes, and flavors. Even time-tested classic foods such as cream cheese will be recreated to contain twice as much protein.

Consumers are proactively seeking more trustworthy information and a variety of options they can choose to customize and meet their lifestyles. There is little doubt that for many -especially Millennials- less is more when it comes to ingredients. Simple ingredients and using natural alternatives also includes ingredients that are considered ecologically damaging such as -for example- palm oil.

New trends will define new food developments in affluent societies:

- Protein, preferably in conjunction with dietary fiber
- Clean, clear and "green" labels
- Snacking: healthy savory or sweet
- Natural & Organic, including "Free-from Foods"
- Flexitarian diet, including vegetable pastas.

There is little doubt that with today's 24/7 active lifestyles, many people migrate from the traditional three meals to more frequent snacking. However, consumers also are triggered by more authentic and less processed foods carrying a cleaner and greener label. Consumers are adding more protein to their diet to help get through their busy days. As a matter of fact, authentic and natural food is becoming a trend that can be termed "Goodness without deprivation" and should offer real opportunities for traditional protein products such as meat and dairy foods.

It is expected that these "better-for-you" foods will democratize health and wellness options and will make these available in regular supermarkets instead of being marketed to a narrow group of consumers who seek out foods at specialty stores like Whole Foods.

Flexitarianism

In developed countries there is an unmistakable trend reducing meat intake in the diet, especially by non-meat eaters, non-red-meat eaters and so-called flexitarians, who mainly eat



a plant-based diet but do occasionally eat meat. Flexitarians especially seek out high-quality meat alternatives, including high-priced high-moisture extruded products. Starting in 2017, Germany will be at the forefront of meatfree product introductions followed by the UK. This demand is also spurred by the rapid growing interest in “free-from”, “all-natural” and “organic” product choices.

To reel in Millennial customers fast food chains are having to turn to new tactics. The Millennial generation and their children have more vegetarians and flexitarians and are increasingly interested in all-natural or minimally processed food. This trend includes no non-therapeutic antibiotics or synthetic hormones and artificial preservatives in the formulated meats. These consumers are consciously reducing the meat intake for a number of reasons including their own health and wellbeing, animal welfare and environmental considerations.

For now, true premium vegetarian or meatfree foods will be sold by upscale, fast and casual restaurants that will also price their menu options at higher levels. Expectedly, a slow but gradual shift will occur towards “good fast food” with meals that are not only more sustainable, but also reasonably healthy, and tasty.

Good fast food does not necessarily need to be meatfree. It can also be whole, natural, and minimally-processed food or a “flexitarian hybrid” combination of extruded structured plant proteins, cleverly infused or blended with seafood, chicken or beef.

A “flexitarian” diet is plant-based with the occasional inclusion of small amounts of meat. The flexitarian diet is trending, and this lifestyle will be gaining popularity in the years to come. These rising trends in vegetarianism will be met by the introduction of distinctive



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and innovative new products, often based on extruded and structured plant protein ingredients that uniquely mimic lean meat.

Meat Psyche

Proper animal welfare and ecological sustainability are huge steps in the right direction. After all, besides meeting the psychological needs of customers, all downsides are met: saving animals, energy, land and water.

Highly processed meat makes it easier for the consumer to distance oneself from the idea that it comes from an animal, thereby reducing empathy and disgust, which ultimately bolsters meat consumption.

There is little doubt that traditional meat companies implement a marketing strategy to mentally disengage meat products from their animal origin, making it very easy for consumers to ignore the link between a NY Sirloin Strip Steak and a cow on a farm.

The marketing trick is to create a positive

image for consumers’ mind and -for example- show a grazing animal in a natural setting. The same is true for the choice of words in conjunction with animal welfare: using the word “harvest” make consumers feel less empathy for the animal than when words such as “slaughter” or “killing” are used.

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GLOBALG.A.P. INTEGRATED FARM ASSURANCE V5.1 NOW RELEASED



The GLOBALG.A.P. Technical Committees and the Board have approved an update of the Integrated Farm Assurance (IFA) Standard.

The main reasons for issuing an update of the IFA Standard are amendments in the Compliance Criteria (CC) of sections 5.2.1 and 5.2.2 of the Crops Base module. In the first edition of V5.0 it was indicated that these Control Points (CP) will become Major Musts as of 1 July 2017. These two CPCC deal with the water management risk assessment and water management plan.

The Secretariat took this opportunity to include other changes that the relevant Technical Committees agreed upon. These include a level change of AF 16 (food fraud) and FV 5.7.3 (laboratory requirements for water testing). Both CPCC were changed to Minor Musts.

Clarifications were made to the Compliance Criteria of the Poultry module (PY 1.2, 5.2.2 and 8.2.5).

There were no actual changes in the standard contents of the Aquaculture module, but the Secretariat took the opportunity to remove any reference to the Friend of the Sea Add-On based on the mutual agreement to

terminate the collaboration. Both schemes will continue independently from November 2017 onwards.

Furthermore, the new Hops sub-scope (HO) is included in this version update. Hops producers (hops for brewing) will have to comply with the All Farm Base, Crops Base and Hops modules.

The Edition Update Registers on the last page of each module describe the adjustments to the texts (small corrections or clarifications). Changes to the General Regulations (Parts I and III) as well as to the Livestock, Crops and Aquaculture Rules can be reviewed in the published documents with traceable changes.

www.globalgap.org

PAPER: CLINICAL SIGNS BEST PREDICTORS OF MORTALITY IN CRITICALLY ILL CALVES



US - Clinical signs such as gastrointestinal problems or septic arthritis may be better predictors of mortality in neonatal calves with diarrhea than blood pH levels and other laboratory findings, a new study suggests.

The research also may finally resolve a century-old debate among scientists about the blood pH levels needed

to sustain life in humans and other mammals.

By analysing data in the medical records of more than 1,400 critically ill calves, scientists were able to ascertain which indicators were significant determinants of mortality.

All of the calves in the study had diarrhea and other clinical signs, and were under 21 days old when they were admitted to the Clinic for Ruminants at Ludwig Maximilian University of Munich between April 2005 and October 2012.

Peter D. Constable, the dean of the College of Veterinary Medicine at the University of Illinois, co-wrote the paper with colleagues Florian M. Trefz and Annette Lorch, both of the Center of Veterinary Clinical Medicine at Ludwig Maximilian University of Munich; and Ingrid Lorenz, of the Bavarian Animal Health Service.

Published online in the scientific journal PLOS ONE, the study is believed to be the first retrospective data analysis involving a large population of critically ill animals, 22 per cent of which had blood pH levels below 7.0, Dr Constable said.

Critically ill calves with diarrhea typically exhibit dehydration, depression, loss of the suckling reflex and impaired ability to stand, according to the study.

Diarrhea also increases calves' risks for serious metabolic problems, including high levels of acid in the blood, a condition known as acidemia; and high concentrations of lactate in the blood, a strong predictor of mortality because it results from decreased blood flow and oxygen delivery to the tissues, Dr Constable said.

"We found that blood pH in itself is a predictor of mortality, but only

when it is less than 6.85, which is profound acidemia," Dr Constable said. "Even then, it's not a really strong predictor. It appears that blood pH is a biomarker of the severity of other abnormalities, such as organ dysfunction."

One of the treatment goals for patients with severe diarrhea is to return their blood pH levels to normal limits using fluid therapy. Calves in the study were treated by administering electrolyte solutions orally or through IVs, along with antibiotics as needed. The mortality rate in the study population was 22 per cent.

Historically, veterinarians have relied on laboratory tests to predict treatment outcomes in neonatal calves. However, in analyzing the data associated with the animals in the current study, the researchers found that the top four predictors of mortality were clinical signs rather than laboratory findings.

Using a technique called classification tree analysis, the scientists found that signs of neurologic disease, gastrointestinal problems, orthopedic disorders such as septic arthritis, and cachexia - a condition commonly known as wasting syndrome - were better predictors of mortality than patients' blood pH levels.

Data on blood pH levels were not sensitive enough or specific enough to reliably predict mortality, the researchers found, except when these levels dropped below 6.85, indicating profound acidemia.

Normal serum pH level is 7.4, Dr Constable said, although there has been much debate among scientists as to what blood pH range is compatible with life. Fifty-four per cent of the calves in the study had blood pH levels below 7.2, indicating severe

acidemia, with the lowest recorded pH level in the study population being 6.47.

"There's a lot of experimental data out there that says if blood pH falls below 7.2, patients tend to have many other comorbidities, but it's difficult to say whether those are caused by acidemia. If you're an Olympic rower, and you've just strenuously exerted yourself to cross the finish line and win the gold medal, your blood pH level could fall as low as 6.8. Yet, you're performing at a very high level," said Dr Constable, whose research interests include cardiovascular responses to endurance training.

"So it's a little uncertain whether blood pH by itself is really problematic and needs to be treated, or whether it's really an indicator of a whole lot of other serious abnormalities that need to be treated too," he said. "Our study would indicate that blood pH in itself, unless it's profoundly acidic, is just a biomarker of these other abnormalities."

The study's findings also can help clinicians identify independent prognostic indicators in children with severe diarrhea, which causes 15 per cent of deaths worldwide in the population under age 5.

"There's an adage among experienced clinicians: Don't look at the data, look at the patient," Dr Constable said. "It's fine to look at laboratory data with these big data-mining exercises, but we can't lose sight of the fact that it's actually more valuable to look at the patient and see if we can identify and quantify physical signs and abnormalities, such as neurologic or abdominal disease, rather than saying that their serum sodium concentration is increased or decreased."

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SCOTTISH SALMON COMPANY LANDS FRESH SUSTAINABILITY CERTIFICATION



The Scottish Salmon Company, which produces up to 30,000 tonnes of salmon a year from 60 sites across the west coast of Scotland, has been awarded Friend of the Sea certification.

The endorsement by Friend of the Sea, the independent sustainability certification body, shows SSC's commitment to areas such as habitat management, maintaining water quality and taking social responsibility for the communities in which it operates. SSC, which was already GLOBAL GAP accredited, is now able to display the official FOS logo on its products.

Welcoming the announcement, Craig Anderson, CEO of The Scottish Salmon Company, said: "We are committed to environmental sustainability and animal husbandry and proud to be recognised by this international mark of quality.

"Provenance and sustainability are paramount to our business and it is very important for us to have this certification. A Friend of the Sea mark of quality on our Scottish salmon provides our customers with the guarantee that they are buying salmon produced sustainably in Scotland and to the highest quality standards."

Paolo Bray, FOS founder and director, added: "Friend of the Sea welcomes The Scottish Salmon Company to its select group of certified aquaculture producers.

"We are glad to see Friend of the Sea is being increasingly recognised in the UK as a sustainability certification".
www.thefishsite.com

IFA SAYS UK CUSTOMS PROPOSALS VERY NEGATIVE FOR IRISH AGRICULTURE



IRELAND - IFA President Joe Healy has said the UK's insistence on leaving the customs union and pursuing an independent trade policy will amount to a hard Brexit and is potentially very negative for Irish agriculture and the value of Ireland's agri-food exports.

The IFA President was commenting on the UK Government's Position Paper on Future Customs Arrangements, published yesterday (15 August), which sets out options for future customs arrangements between the EU and UK.

Mr Healy said, "Ireland is the EU economy that will be the most impacted by a hard Brexit, and farming and agri-food will be the most impacted sector. Ireland's agri-food sector has a high dependence on the UK market, with 40 per cent of exports destined for the UK market annually.

"The UK Government has proposed two options - either the reinstatement

of a 'highly streamlined customs arrangement', or a 'customs partnership' which they suggest would not require a customs border between the EU and UK.

"The first option would see the reinstatement of a customs border between the EU and UK. This is a very retrograde development for trade on the island of Ireland and between Ireland and Britain, after forty-five years of EEC/EU integration."

Mr Healy continued, "The second option, of a 'customs partnership' between the EU and UK is simply not an acceptable outcome for the agriculture and food sector, as even under this arrangement, the UK would still be committed to pursuing their own trade policy for imports into the UK.

"Any increase in low-cost food imports into the UK that would undermine the value of the UK market would have a devastating effect on the Irish agri-food sector. The potential displacement of Irish food exports from the UK market will in turn destabilise the EU market balance."

The IFA President concluded by saying that in order to safeguard the future value of the Irish and EU farming and food sector, the EU must negotiate a balanced Free Trade Agreement with the UK, which would include the following specific conditions for agriculture and food:

- Tariff - free trade for agricultural products and food;
 - Maintenance of equivalent standards on food safety, animal health, welfare and the environment;
 - Application of the Common External Tariff for agricultural and food imports to both the EU and UK.
- www.thepoultrysite.com

ANNOUNCEMENT ON MANDATORY CCTV IN SLAUGHTERHOUSES 'A HUGE WIN FOR ANIMAL WELFARE', SAYS BVA



The Government's plan to introduce mandatory CCTV in all slaughterhouses in England is a huge win for animal health and welfare, following years of campaigning by the British Veterinary Association (BVA) and Veterinary Public Health Association (VPHA).

BVA and the Veterinary Public Health Association (VPHA) - who represent the Official Veterinarians (OVs) who oversee animal health and welfare and public health in slaughterhouses - have been campaigning for both mandatory CCTV in all areas of slaughterhouses where live animals are kept and full and unrestricted 24/7 access to CCTV footage for OVs as part of their long-standing welfare at slaughter campaign. Both commitments are vital in order to safeguard animal welfare, assist with enforcement and instil consumer confidence. All of these asks were included under new animal welfare plans announced today by Environment Secretary Michael Gove.

British Veterinary Association President Gudrun Ravetz said: "Today's announcement is extremely welcome. We have been campaigning on this

issue for a number of years and this announcement represents a huge win for animal health and welfare in England.

Mandatory CCTV in all areas of slaughterhouses will provide an essential tool in fostering a culture of compassion that could help safeguard animal welfare and we are particularly pleased to see a commitment to Official Veterinarians having unrestricted access to footage.

Vets' independence and unique qualifications help ensure that the UK will continue to have the highest standards of animal health, welfare and food safety.

"We recognise that the cost of installing CCTV may be a burden for some very small abattoirs, but it is important that the animals we farm for food have both a good life and a humane death and CCTV has a key role to play in ensuring these requirements are met."

Under the current law OV's have a right to request and to see the footage if they have cause for concern that abuse may be occurring. However, if this needs to be enforced through the courts the process can be protracted.

Both BVA and VPHA have repeatedly voiced concerns that the purpose of CCTV in slaughterhouses is fundamentally undermined if vets are refused access to footage and the footage is not monitored independently of the slaughterhouse business operator.

Veterinary Public Health Association President Lewis Grant said: "This represents a unique opportunity for Food Business Operators to work together with their OV's to ensure that they operate under the highest standards of animal welfare at all times and that any staff training issues can be assessed and addressed

by viewing appropriate footage. We are encouraged to see that it applies to all premises great and small and allows unrestricted access ensuring that this is a workable and viable tool for the OV.

"I feel that our OV's will universally approve these new proposals that should ensure this country remains a world leader in promoting the highest standards of animal welfare."

In today's announcement, the Government has also confirmed it will update the animal welfare codes - guidance which sets the standards farmers and keepers have to meet under animal welfare legislation. The first code to be updated focuses on welfare standards for chickens bred for meat.

Gudrun Ravetz added: "We welcome the consultation to update welfare codes for farmed animals and pets, many of which are in urgent need of updating to reflect the latest animal welfare science and good practice. We are keen to see Defra working with the veterinary profession, industry and all relevant stakeholders to ensure vital welfare codes are brought up to date."

John Tasker of the British Veterinary Poultry Association said: "BVPA are committed to supporting research and implementation of best practice in all aspects of poultry production, including welfare on farm and in the abattoir. We look forward to cooperating fully with Defra in development and implementation of these new initiatives.

"The British poultry industry has some of the highest welfare standards in the world and seeks to continually update and refine its practices in the light of new research, and to maintain public confidence in the industry."

All of the new proposals will be subject to consultation and BVA, VPHA and BVPA will be considering the detailed plans before submitting their full response to Defra.

Full details of the proposals and the consultation on CCTV in slaughterhouses is at <https://consult.defra.gov.uk/farm-animal-welfare/cctv-in-slaughterhouses> and remains open for six weeks. The consultation on the 'Code of Practice for the Welfare of Meat Chickens and Meat Breeding Chickens' is at <https://consult.defra.gov.uk/animal-health-and-welfare/code-of-practice-for-the-welfare-of-meat-chickens> and remains open for eight weeks.

www.bva.co.uk

MEETINGS FOCUS ON MAXIMISING LIVESTOCK PRODUCTION FROM GRASS



SCOTLAND, UK - Livestock farmers are invited to attend one of the six free "Better Grazing" meetings being held across Scotland next month.

Trevor Cook, a grazing consultant and qualified vet from New Zealand, will be the key speaker at these meetings, which are being organised by Quality Meat Scotland (QMS) as part of the "Better Grazing" Programme launched earlier this month.

Mr Cook is well-known by farmers around the world for his work in

farm consultancy, extension and research.

At the meetings next month, Mr Cook will share his extensive knowledge on livestock production and lead discussions on how Scottish livestock farmers can improve the utilisation of grass on their farms to maximise output and keep costs down.

He said: "In order to get the highest level of production from our livestock, it is important to understand their nutritional needs and how this fits with grass growth and quality.

"Knowing the nutritional demands of your stock and the value of correct feeding during pregnancy, lactation and post weaning is therefore critical to help drive profitability."

He added: "There are many challenges that farmers face to ensure that their animals are kept in the right body condition score to ensure optimal performance. Grass supply and demand can be a challenge at certain times of the year, as is ensuring the correct quality and quantity of forage offered."

Emily Grant, Knowledge Transfer Specialist at QMS encouraged livestock farmers to attend these meetings.

She said: "I'm delighted that Trevor is able to come at speak at these meetings. He has a huge depth of knowledge and experience of profitable farming systems through maximising the use of pasture.

"Understanding the role of nutrition in ensuring optimal calving and lambing percentages, new born survival and growth rates is fundamental to profitability.

"Meeting most of these nutritional demands from grass will help keep

purchased input costs as low as possible. This will be a valuable meeting whatever type of grazing system you have in place."

The Better Grazing meetings will be held at NTS Culloden, Inverness on Thursday, 14 September; the Thainstone Centre, Inverurie on Friday, 15 September; the Ardshiel Hotel, Campbeltown on Monday, 18 September; the Glogburn Farm Coffee Shop, Perth on Wednesday, 20 September; the Dryfesdale Hotel, Lockerbie on Thursday, 21 September; and Melrose Rugby Club on Monday, 25 September.

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STUDY COMPARES COST OF MEAT IN OVER 50 COUNTRIES WORLDWIDE



GLOBAL - Online catering marketplace, Caterwings, have conducted a study regarding the global price of basic food items, as preliminary research ahead of their expansion into foreign markets.

The research highlighted in particular that the cost of meat around the world is remarkably varied. To share these insights, Caterwings have released the 2017 Meat Price Index, which details the cost of meat in over 50 countries worldwide.

The study revealed that Switzerland

has the highest meat prices, at 141.9 per cent more expensive than the average cost worldwide, followed by Norway (63.7 per cent more expensive) and Hong Kong (61 per cent more expensive), while Ukraine has the least expensive meat prices, at 52.3 per cent less expensive than the average cost, closely followed by Malaysia (50.3 per cent less expensive).

To give some perspective to the data, the affordability of meat in each country was calculated to reveal the relative number of hours a person on minimum wage must work to buy each type of meat. The findings confirmed that not only does the price of meat vary massively from country to country, but there is also an enormous disparity in its accessibility for people all around the world.

To create the Index, Caterwings looked at the top meat producing and consuming countries around the world focusing on beef, chicken, seafood, pork and lamb. After reviewing hundreds of food retailers, the data was compiled by analysing meat prices in these countries' top cities, which needed to account for at least 25 per cent of the total population. The Index is then ranked by the deviation percentage—this shows how comparatively affordable or expensive each meat type is in each country, in comparison to the global average cost.

"What began as a simple catering cost price Index for market research has raised some important questions," commented Caterwings Managing Director, Susannah Belcher. "It is clear that international inequality exists, and as the world begins to rethink the implications of globalisation, this study clearly demonstrates that food prices ought to be on the agenda."

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FIE INVITES THOUGHT LEADERS AND INNOVATIVE START-UPS TO APPLY FOR 2017 AWARDS

*Fi Innovation Awards Winner 2015
Scelta Mushrooms
with Richard Joyce
and Peter Wennström*

Entry now open: The world's leading food and beverage ingredients show rewards companies for outstanding innovations, whilst the Start-up Innovation Challenge offers a platform for cutting-edge newcomers to the industry. Non-exhibitors are welcome to enter selected categories.



Eyes on industry drivers: Fi Europe Innovation Awards

Frankfurt / Amsterdam, 10 August 2017: “Thought Leadership”, the guiding concept for this year’s Food ingredients Europe, is echoed in the 2017 Fi Europe Innovation Awards. With ten newly created categories spanning all industry sectors, the Awards recognise and reward the ability to demonstrate and stimulate innovation. Especially for young start-ups, FiE offers an exclusive platform: After last year’s inaugural success, the second Start-up Innovation Challenge invites companies to share a pioneering project with a broader audience.

Both the Start-up Innovation Challenge and the Future of Nutrition Award, one of the ten Fi Europe Innovation Awards categories, are open to FiE exhibitors and non-exhibitors alike. The other nine Fi Europe Innovation Awards categories are open exclusively to Fi Europe & Ni 2017 exhibitors. Closing date for entries is 22 September for the Innovation Awards and 23 October for the Start-up Innovation Challenge.

With a record of more than 1,500 exhibitors, FiE & Ni 2017 is the place to detect and define tomorrow’s trends at a glance. Over the last decade, a top-level jury panel has sought out and recognised innovative thinkers and creators who act as market catalysts. Their awards go to the most inspiring products or services – from ingredients and applications through processes, technology and machinery to strategy and initiative. “During our pre-selection weeks, the jury is presented with a reflection of the great innovative power of the food and beverage industry. This year, our newly created categories are geared towards the main developments in the sector, which spur it on like few others. With the Fi Europe Innovation Awards, we want to acknowledge trend-setting new ideas and move them into the focus of a professional audience,” says Richard Joyce, Brand Director

for event organiser UBM EMEA. Jeroen Dekkers, Marketing Manager at Scelta Mushrooms, winner of the Most Innovative Food Ingredient Award in 2015, adds: “Winning this award gave our new product a flying start in the market.”

Interested companies can enter one or more of the following Fi Europe Innovation Awards categories:

1. Future of Nutrition Award for pioneering innovation by contributing to an environment that supports and nurtures progressive ideas likely to change the face of the food and beverage industry in the long term. Entry is open to all companies, whether exhibiting at FiE or not.

2. Sustainability Champion Award for a measurable sustainability strategy that champions environmental or social sustainability in the food and beverage industry.

3. Organic Champion Award for promotion of the organic category through marketing, improvement of traceability, growth of product lines or any other innovative ways of raising awareness and availability of organic products.

4. Clean Label & Natural Innovation Award for developing the best Clean Label ingredient or process with functionality equal to a synthetic ingredient.

5. Life Stages Innovation Award for the proven effectiveness of an ingredient or application that best promotes or supports health at one or more life stage, from conception to old age.

6. Performance Nutrition Innovation Award for the proven effectiveness of a product that best promotes or supports an active lifestyle.

7. Growth Categories Innovation Award for developing a high impact, innovative product for application in any of the following three fast-growing categories: dairy, bakery, beverages.

8. Reduction & Reformulation Innovation Award for developing the best solution (natural or synthetic) within the last two years for reducing salt, sugar or fat whilst maintaining flavour, texture and functionality of the ingredient replaced.

9. Expo FoodTec Innovation Award for developing high-tech/advanced

services, technology or machinery for food ingredients processing or packaging.

10. Workforce Equality Award for creating a work environment that offers equal opportunities for all employees, irrespective of their gender, race, religious background, sexual orientation, and physical or mental ability.

After the closing date, the judges will generate a shortlist from the most promising applications. The day before FiE starts, those shortlisters will present their entries to the jury behind closed doors; the ten winners will then be announced to the public at an evening ceremony on 28 November. To enter the competition, projects must have been launched between 1 September 2015 and 1 September 2017. The assessment criteria as well as the application form can be found at awards.figlobal.com.

**Start-up Innovation Challenge:
a stage for convincing industry
newcomers**

The first ever Start-up Innovation Challenge took place during last year's Health ingredients Europe. This year, young food and beverage ingredients companies will have a chance to present their excellence during FiE & Ni to a specialist audience of 25,000 trade visitors. In partnership with Naturex, Presans and Vaucluse Provence Attractivité, the Fi Global team will reward ten companies who have been in business for less than four years for

innovative ingredients projects with a ground-breaking impact on the industry.

For young companies, the Start-up Innovation Challenge offers a unique chance to present their projects to a jury panel of experienced manufacturers, R&D specialists, investors and start-up incubators for constructive feedback and consultancy. Above all, the ten shortlisted start-ups will be given the opportunity to pitch their innovations live at FiE & Ni in the bustling New Product Zone, and the winners will receive a personalised support program to further their growth. Start-ups can enter the Challenge via startups.figlobal.com.

**The Start-up Innovation
Challenge is split into two
categories:**

1. Best Innovation Award for stand-out ingredients projects. A personalised support programme combined with a lead generation campaign or a stand at HiE 2018 or FiE & Ni 2019 will help to boost the winner's product or development.

2. Best Natural Ingredient Award is offered to innovative projects promoting, amongst other things, new green tech extraction methods, plant extracts or natural ingredients concepts. The winning start-up will gain six months access to offices at Naturex's headquarters with use of equipment and laboratories, complemented by regulatory and marketing resources.

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