

MEATING POINT magazine

SUSTAINABLE TECHNOLOGY, PROCESSING & PACKAGING



Fighting Hunger is Good for Business: How the Meat Industry Can Win With “Cause Marketing”



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The Evolution
of Food Safety:
Avoiding Costly
Recalls

McDonald’s:
Fast Food has
Slowed Down

“Meating” the
time challenge:
extending the
shelf life of
meat products

.....

24th International Trade Fair of equipment
for food and processing industry



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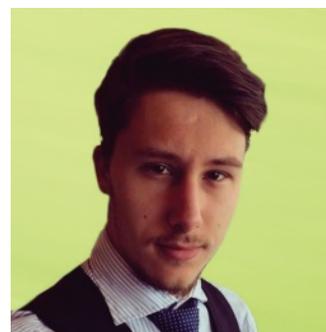
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Dear Reader,

Food safety and quality is of paramount concern within all businesses, their survival depends maintain standards and compliance. Therefore, the majority of their people and finance resources are devoted to these key areas. The meat industry is one of the most highly regulated industries in the world. Hundreds of millions have been invested in laboratory testing, plant sanitation, equipment, transportation, packaging, advanced technology research and development. Huge steps of progress have been made over the last fifteen years to ensure the safest possible food supply. However, a large number of foodborne illness outbreaks still occur and most of them are due to meat products.



Tristan Bogaard

Sometimes embarrassing headlines and television reports remind us of cases of Lis-teria, E. coli and Salmonella. Prevention of food contamination by viruses, bacteria or foreign objects is essential for food safety. In this issue we look at the attributes of metal detectors and X-ray systems in the battle against foreign body contamination in food industry. The aim is to ensure food quality professionals with comparative information can make the right decisions on individual product requirements and processing, while providing some advice on how to avoid costly recalls when choos-ing the right equipment.

With our cover story: Fighting Hunger is Good for Business: How the Meat Industry Can Win With " Cause Marketing", we would like to attract the attention of meat in-dustry to the opportunity to align itself with efforts to fight hunger and malnutrition. The Six- Second Project, a United States-based non-profit organisation, is offering the meat industry an exclusive opportunity to engage in "CAUSE MARKETING" as part of a global meat industry effort, enabling participants a competitive edge.

Looking for new markets, the food trade has become a global business producer across many different countries. This inevitably leads to consolidation and complexity of supply chains. In this regard meat as a product with the shortest shelf life is most vulnerable. So the requirements to remain fresh as long as possible are growing. "Meating" the time challenge: extending the shelf life of meat products, an article by Lonneke van Dijk, Corbion Purac, is addressing the latest tendencies and the effect of current market trends.

Enjoy your read!

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MEATING POINT MAGAZINE is published six times a year (March, May, July, September, October, December).

The online version of the magazine is available at www.meatingpoint-mag.com.

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The Evolution of Food Safety: Avoiding Costly Recalls

By Simon King, Global Head Sales, Eagle Product Inspection

The threat of product recalls is as much a concern for food manufacturers now as it was five years ago, but advances in technology have helped to minimize the risk to brand owners. Simon King, Global Head Sales at Eagle Product Inspection explores the changes that have taken place over the last few years and explains how manufacturers can avoid a costly recall.

Increased attention to food safety

Picture the scene several years ago. In 2009, there were 56 separate food safety incidents recorded in the UK¹ caused by contamination from foreign bodies, such as glass or metal shards, stones or bones, or fragments of plastics or rubber. This has since risen to 118 in 2013, with plastic, metal and glass contamination in 19, 12 and 10 incidents respectively². Interestingly, of the 118 recorded incidents, 62 originated from the UK, 35 from the European Union (EU) and 11 were imported. In the United States, there were 10 recorded incidents of extraneous material contamination in 2013, with 331,732 pounds of food recalled. The number of incidents significantly increased from 5 in 2009 however the amount of food recalled reduced from over one million pounds³. These, combined with a number of other high profile food scares, have had consumers in both Europe and North America increasingly worried about the safety of the products at supermarkets.

In addition, several product recalls over the last few years, such as needles

in airplane food in the US, and glass shards in sparkling wine in the UK, have all led to widespread media coverage, impacting on consumer perceptions about the safety of the food supply chain. Such attention has put the spotlight firmly on the quality control practices carried out by manufacturers to minimize the risk to consumers, uphold their trust in the food they eat and, in doing so, safeguard their brand.

For any brand involved in a safety incident, a product recall can be costly, especially when you factor in the time and effort spent initiating the recall, communicating it to customers and consumers, then working to rebuild their reputation in the eyes of both retailers and the general public. In addition, there are damages that have to be paid to customers left out of pocket, as well as the expense of lost and wasted product. It is no surprise, then, that manufacturers are keen to do all they can to avoid an incident.

To continually protect consumers against substandard products, food safety legislation and standards in both the US and the European Union (EU) have evolved. The International Featured Standards in France, Germany and other European economies, the British Retail Consortium (BRC) Global Standards in the UK, and the Food Safety Modernization Act in the US are all more stringent than ever before to combat food safety hazards, safeguard consumer wellbeing and reclaim public trust in the food supply chain. They are now becoming the

blueprints for similar regulations in emerging markets, such as China, both to improve safety for local consumers and to facilitate exports to Europe and North America.

As a result of these stricter rules around the globe, food manufacturers have had to evolve their product inspection processes to ensure compliance with regulations and minimize the risk of a costly product recall. At the same time, increasing worldwide demand for food products and growing globalization of the market has meant that they have had to maintain high levels of quality control while boosting their manufacturing output and productivity.

Product inspection manufacturers have had to develop their technologies, such as x-ray inspection systems, innovating to meet these requirements from customers, with ever greater sensitivity and features to balance product safety and productivity. Incorporating fully integrated automatic rejection systems, for example, into x-ray technology has enabled manufacturers to significantly increase throughput rates on their line without compromising contaminant detection. The development and inclusion of advanced data management systems in product inspection machines has also resulted in more accurate analysis and monitoring, enabling food manufacturers to not only demonstrate due diligence in the event of an incident, but to identify potential sources of contamination to minimize the risk of it happening again in the future.

¹ <http://www.food.gov.uk/sites/default/files/multimedia/pdfs/incidents-report-2012.pdf>

² <http://www.food.gov.uk/sites/default/files/multimedia/pdfs/publication/annual-report-incidents-2013.pdf>

³ <http://www.fsis.usda.gov/wps/portal/fsis/topics/recalls-and-public-health-alerts/recall-summaries/recall-summaries-2009>

Where we stand today

Even with the developments in legislation, food product recalls remain a significant issue for manufacturers today. The number of recalls in the UK and US, due to physical contamination, has increased over the last five years. However, this is due in large part to increased awareness of food safety among consumers and retailers, as well as stricter regulations - including audits - raising the bar for food manufacturers.

The globalization of the food market has led to much longer supply chains, with raw ingredients sourced in one country, processed and packaged in another, ready for selling in a third or even a fourth nation. This means that brand owners have to ensure that their products and their manufacturing processes comply with the regulations in place in each of the markets they are operating in. For example, if food is sourced in the US, processed in the UK and sold in France, then the manufacturer will have to meet the

requirements of the US Food Safety Modernization Act, the BRC Global Standards and the IFS.

As a result, in order to comply with so many food safety standards, manufacturers have to ensure that their production lines meet more than just high hygiene standards. They also need to have in place precision product inspection processes to identify any and all instances of physical contamination on the line to minimize the risk of sub-standard packs reaching consumers. Product inspection equipment, such as advanced x-ray systems has been a real help here to manufacturers, enabling them to automate their quality control procedures to inspect all of their packs for foreign bodies. The use of innovative, high-performance x-ray technology can really help manufacturers to safeguard against physical contamination and reduce the risk of food safety recalls, protecting their brand reputation.

A new generation of technologies to avoid the recall threat

The new more stringent regulations in place worldwide are pressuring manufacturers to achieve ever higher standards of food safety. The industry is now turning to equipment suppliers to provide them with technologies that uphold the highest levels of product quality, while maintaining optimum line speed and efficiency.

Installing product inspection technologies on production lines in accordance with the principles of Hazard Analysis and Critical



Control Points (HACCP) is a key first step in minimizing the risk of contamination. Under this protocol, rather than just inspecting products at the end of the manufacturing process, advanced inspection systems must be installed at every location on the line identified as vulnerable to contamination, known as Critical Control Points (CCPs). Doing this can ensure that even minuscule foreign bodies are identified as early as possible, maximizing detection rates and preventing contaminants from fragmenting during processing to affect a greater number of products.

However, to keep up with burgeoning competition on the international stage, food manufacturers need to strike the right balance between product safety and line productivity, which increasingly means boosting line speeds. High throughput rates through the product inspection process can be easily achieved, though, by installing advanced x-ray inspection machines capable of precision contaminant detection at high speeds, as well as by automating the rejection process. Fully-integrated automatic rejection systems can ensure that all non-conforming packs can be removed without the need to stop or slow the production line, maximizing production uptime, while keeping the risk of a contamination incident to a minimum.

While the inclusion of inspection systems that follow HACCP principles has helped to significantly decrease the likelihood of contamination reaching consumers, it is imperative that manufacturers are prepared for a potential food safety incident involving their product. If a recall were to occur, they need to be able

to manage both the recovery of non-conforming packs from retailers and consumers, as well as any investigation by the authorities, providing proof of their due diligence.

In such an event, being fully informed about the performance of the production line and the product inspection systems is vital to maintain continuous operation and to mitigate the negative impact on brand reputation. Modern x-ray systems feature data management systems fully incorporated into the machine, capable of recording and storing data about both conforming and non-conforming products on the line. This information can allow manufacturers to demonstrate that they have taken every feasible measure to prevent contamination to investigators, and to enable them to trace the source of safety issues. Advanced systems can also be connected to a larger network, enabling manufacturers to access data from multiple inspection machines, and at the same time, further facilitating their analysis of contamination trends. All of this can help manufacturers to keep up to speed with how their production processes are operating and help to demonstrate due diligence, should the worst happen.

Evolving with the food safety landscape

The international food market has undergone an immense transformation since 2009, with increased globalization of the supply chain, and the introduction of a raft of rigorous safety regulations worldwide. To continue to comply with legislation and retain access to lucrative overseas markets, while remaining

competitive on the world stage, food manufacturers need to ensure that they have the most up-to-date product inspection systems installed on their lines to optimize contaminant detection without compromising on productivity.

Product inspection system specialists are constantly developing their technologies to stay ahead of changes in the food safety landscape and to meet customer requirements. Working with such specialists, food manufacturers can ensure that their product inspection processes are capable of evolving with the food market, maximizing safety and helping them to avoid a costly recall.

About the Author:

**Simon King,
Global Head Sales, Service and Marketing**

As Global Head Sales, Service and Marketing at Eagle Product Inspection, Simon King is responsible for direct and partner channel development, shaping the direction of Eagle's marketing strategy and expanding the company's global reach to serve customers and its agents around the world.

Simon holds an MBA in International Business Management from the University of London and a BA (Hons) in Business and Finance from Manchester University. Prior to joining Eagle, Simon was Director, Global Sales and Marketing in a division of Elbit Systems. Before Elbit Systems, Simon held a number of senior, multi-national roles with Domino Printing Sciences, including experience periods running extensive operations in Japan and the Asia-Pacific region.

www.eaglepi.com



High Production Performance Assured with New Metal Detector OEE Reporting Enhancement

Mettler-Toledo Launches New OEE Reporting Feature for Profile and Signature Touch Metal Detectors

Food and beverage manufacturers can benefit from optimised metal detector performance and reliability, thanks to a new Overall Equipment Effectiveness (OEE) reporting enhancement from Mettler-Toledo Safeline Metal Detection. Developed for metal detection's Profile, Profile Advantage and Signature Touch systems, the new feature supports manufacturers in improving the efficiency of their production lines. By streamlining the collection of OEE data, it allows operatives to analyse consistent types of information together with reporting data from other machines on the line. Manufacturers can use this data to enhance their operations by reducing maintenance or changeover downtime, maximising productivity.

The new OEE reporting enhancement enables manufacturers to access and download key performance data for their metal detection systems, such as alarm history, faults and warnings, and changeover information, in the same way they do with their other pieces of equipment to help them understand how efficiently the machine is operating. This can then be collated with information from across the entire production line to be analysed all together at a centralised remote location.

In addition to their OEE reporting enhancement, the Profile, Profile Advantage and Signature Touch metal detection systems are now enabled for Packaging Machine Language (PackML) v3.0 - the most recent version of PackML created by the Organisation for Machine Automation and Control (OMAC). PackML v3.0 simplifies machine-to-machine integration, which allows OEE data to be extracted from the metal detector and viewed on remote interfaces in a uniform, easy-to-read and industry standardised manner.

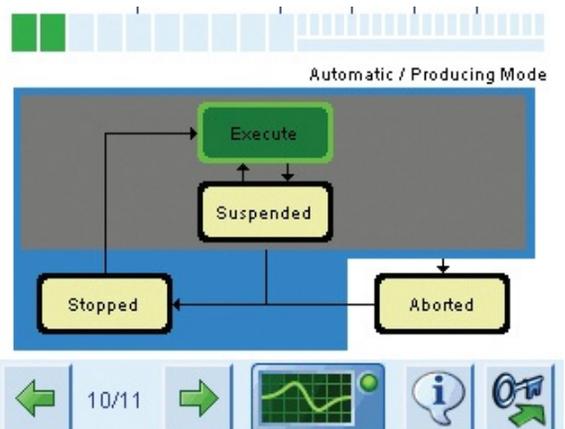
"With the rising cost of raw ingredients and increased global competition, food and beverage manufacturers are growing more and more concerned about OEE and production line efficiency," explained Jonathan Richards, Head of Marketing at Mettler-Toledo Safeline Metal Detection. "This is something that we at Mettler-Toledo have been committed to addressing for many years now, with the development of innovative features for our metal detectors, from Conditioning Monitoring software to Product Clustering, all designed to minimise downtime and optimise productivity. With these new enhancements for our metal detection systems, manufacturers can benefit from greater insight into their production lines' performance, enabling them to

take steps to maximise efficiency."

OEE data from the Profile, Profile Advantage and Signature Touch metal detectors can be extracted using an existing RS232 and Ethernet interface or through Mettler-Toledo Safeline Metal Detection's new Fieldbus Interface Module (FIM). The FIM is available for use with EtherNet/IP™ and Modbus® TCP Fieldbus networks and provides the critical bridge between the metal detector and the customer's Fieldbus network. Fully incorporated into the machine, this allows direct transfer of information to the manufacturer's management information system for later analysis and reporting.

www.mt.com/pi

MD Availability	100.0 %
Availability	84.8 %
Performance	88.6 %
Quality	99.9 %
OEE	75.1 %
Products Defective	4 Packs
Products Processed	3546 Packs
Machine Speed	94 ppm





ANRITSU LINKS UP WITH BST DETECTABLE PRODUCTS IN FIGHT AGAINST FOOD CONTAMINATION



Anritsu Industrial Solutions Ltd, one of the leading manufacturers of product quality assurance systems in the world, has announced a strategic partnership with BST Detectable Products, pioneers of metal detectable products, to offer a comprehensive food safety service.

The new collaboration between two of the leading companies in the battle against foreign body contamination in food will offer customers Anritsu's cutting edge metal detection and X-ray technology, coupled with BST's industry renowned product support.

Co-operation between the two companies will see Anritsu test and provide calibration guidance and advice on BST's range of metal detectable and X-ray visible food processing items, while in return Doncaster-based BST is able to offer bespoke, detectable product solutions compatible with Anritsu's market-leading inspection systems.

Anritsu's UK sales manager, Glen Oxborough, is confident the joint venture will prove a success for both businesses because they often share the same customers, which means

they will be able to complement each other's services.

He added: "We are very excited about our relationship with BST. This partnership is ideal for both companies and will further improve the service we provide customers. The arrangement enables us to offer the highest quality detection systems, combined with the best detectable products for the food industry."

Protecting consumers from contaminants in the food chain is paramount for both the retailer and supplier alike - finding the smallest fragment of metal, stone, plastic or bone in processed food products can be seriously damaging both financially and to a company's reputation.

BST's marketing manager, Will Anderson, said: "To have Anritsu on board and benefit from their experience and expertise in product inspection will add real value to the technical support we offer our customers."

The companies, who agreed on the joint venture after meeting at the PPMA Show 2014, will both be exhibiting at the same event at the NEC in Birmingham on September 29th to 1st October 2015, where visitors will see Anritsu's inspection systems and BST's detectable products in action on stands B80 and B82 respectively.

Increased orders for Anritsu products have seen the company boost its UK presence and open a new sales and service office in Bromsgrove to support its growing UK and European customer base. Customers can visit the Bromsgrove site for live product demonstrations, training and product testing. Just to prove how confident the company is in its products, Anritsu is pleased to offer a free production line trial.

www.anritsu.com



NEW ROBOTGRADER REVOLUTIONISES FIXED WEIGHT TRAY PACKING



Weighing and packing equipment specialist Ishida Europe has extended its range of solutions for poultry, meat and fish packaging with the addition to its equipment portfolio of a unique system that improves yields and efficiencies in the packing of fresh food pieces.

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

By comparison, a manual operation can be extremely labour intensive with a single operator only able to pack 30 pieces/min, and where overfill can be anywhere from 5% to up to 20%.

The RobotGrader is weighing products on a belt weigher. The information

is then fed into the system's unique sorting algorithms that determine the robot's selection of the pieces. The robot stores the information on a large number of weighed pieces and the system also optimises the number of trays within the reach of each robot, maximising availability from which to create each complete pack. The robot gripper has been specially designed to grasp each piece firmly but gently and to orientate it correctly in the trays, for example placing two chicken drumsticks in opposite directions.

Depending on the model, the RobotGrader can handle two, three or four different tray types at the same time. In addition, the system can identify and sort pieces whose weight is unsuitable for tray packing, and direct these to bulk bins (which are integrated into the RobotGrader) as well as freezers, slicers and marinating operations.

The RobotGrader's space-efficient design with overhead-mounted robots, and the elimination of manual work stations, provide a compact overall footprint and an impressive Return on Floorspace (RoF). A hygienic construction, with all parts of open plastic or metal design, enables rapid and effective washdown. Easily-movable tray guides mean product changeovers are fast and simple.

The RobotGrader can also integrate easily with existing factory ERP and control systems.

"With modern processing lines able to operate at extremely high speeds, the filling of two or more pieces into fixed weight packs has been one area that has until now resisted efficient automation," explains Ulrich Nielsen, Ishida Europe's Director for Business Solutions.

"Using proven technology, the Robotgrader solves this problem to deliver near-continuous accurate process packing."

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





Thermo Fisher Scientific introduces safer, cleaner method to test swine carcasses for Trichinella

A safer alternative to the current pepsin digestion method

Abattoirs and meat packers have a cleaner, safer way to test swine carcasses for potentially dangerous Trichinella at meat inspection - new PrioCHECK™ Trichinella AAD from Thermo Fisher Scientific. The alternative artificial digestion (AAD) method has been validated and approved by the European Union and is now listed in commission regulation (EC) 2075/2005.

"Monitoring the health of animals at harvest helps determine a precursor for food safety," said Martin Guillet, global head and general manager of animal health at Thermo Fisher Scientific. "Testing for Trichinella at inspection is considered as an essential way to prevent zoonosis. Our solution contributes to this type of testing, helping to ensure the safety of the food source, and is in line with the Thermo Fisher Scientific mission of enabling customers to make the world healthier, cleaner and safer."

PrioCHECK Trichinella AAD is a reliable alternative to the currently used pepsinbased artificial digestion

method, because the test uses a recombinantly produced enzyme from a standardized and secured production facility, ensuring good availability of the enzyme and consistent quality. In addition, it does not use pepsin powder or hydrochloric acid, increasing ease of handling and worker safety.

Extensively validated by the CRL

The Community Reference Laboratory (CRL) for Trichinella in Rome has extensively validated the performance of the PrioCHECK Trichinella AAD Kit and has approved the product as an official method for use in the in vitro detection of Trichinella spp in meat of domestic swine.

Testing methodology

Laboratories do not have to change their testing routine since the protocol of the sample preparation method follows the same steps as that of the currently used pepsin-based method. A piece of muscle tissue is chopped, minced and then

digested with digestive enzymes. In the case of PrioCHECK Trichinella AAD, this enzyme is a subtilisin. The digestion solution is filtered, and after sedimentation steps, examined by microscope for the presence of the larvae. All components of the PrioCHECK Trichinella AAD are liquid solutions, and no acid is to be added. Therefore, the risks associated with handling powder or concentrated acids are avoided.

Trichinellosis

Trichinellosis is a zoonotic disease (can be transmitted from animals to humans) that occurs worldwide and is caused by the larvae of the nematode (roundworm) Trichinella. Humans can be infected by eating raw or insufficiently cooked meat. Under the European Commission (EC) Directive No. 2075/2005, all pigs slaughtered for human consumption have to be tested for Trichinella spp by artificial digestion.

www.thermofisher.com/animalhealth



The Queen Recognises Exporting Achievements of Food Safety Products Supplier

The Queens Award for Enterprise 2015 was recently given to the Directors and the staff of Detectamet Limited at an award ceremony at their headquarters in Pocklington. The Honourable Mrs. Susan Cunliffe-Lister the Lord-

Lieutenant of the East Riding of Yorkshire was taken on a tour to meet the staff and during lunch made the presentation to Angela Musson-Smith the company's Managing Director and CEO Sean Smith.

The Queens Award recognises Detectamet's continuously growing volumes of exports to more than 100 countries and has, over the past three years, continuously increased exports achieving a growth of more than 80%.



Intelligent Portioning & Grading Solution for Meat Processors

With extensive experience in providing processing solutions to meat processors of all sizes, SF understands the needs of the industry. From maintaining quality, to ensuring high efficiency and hygiene levels, SF delivers by integrating great brands into great solutions.

A recent partnership with Marelec has introduced a state-of-the-art portion cutter into the SF portfolio. Suited to fresh products such as meat, poultry fish fillets and whole fish, the Portio is a high precision yet economic portion cutting machine. Offering fixed weight and fixed thickness portioning, combined with unmatched accuracy and super-fast cutting capability, intelligent portioning has never been better. A supremely productive piece of machinery, delivering up to 1000 fixed cuts per minute, the Portio can

do the work of up to five people when operated at capacity.

Perfect for weighing and grading small or vulnerable products, the Outfeed Catchweigher and In-line Grader working in tandem with the Portio can significantly improve yields. Reaching up to 120 pieces per minute, product is gently graded into portions of various programmed weights or sizes.

SF Engineering is perfectly positioned to offer companies of all sizes world-class solutions. What makes SF different is that they strive to tailor the best solutions to every customer. No 'one-size fits all' in modern food processing, the focus is always to ensure facilities perform at their optimum level.

www.sfengineering.ie



Founded in the East Yorkshire, UK, only 12 years ago Detectamet products are bought and used by food companies around the world to help to protect their products from contamination.

The company employs almost 35 people who design, manufacture and distribute products that are made using metal and X-Ray detectable plastics. If pieces of this plastic end up in the food they will be identified and rejected by the metal or X-Ray inspection systems

used by many food manufacturing companies.

Angela Musson-Smith Detectamet's Managing Director explained "When my husband and I started our business in 2003 we could only dream of being honoured by an award such as this. Sean and I are so grateful to our staff, suppliers and local service companies who have helped us to fulfil our hopes and make our dreams come true."

The timing of this award adds

further impetus to Detectamet's exporting plans. Detectamet Incorporated is opening for business a in the USA in September. From its base in Richmond Virginia it will be able to service its growing list of North American customers more efficiently.

Detectamet's CEO Sean Smith said "We really hope that our success will encourage other food industry enterprises to grasp the opportunities of exporting."

www.detectamet.co.uk



A significant reduction in the overfill rate thanks to 'SB Weight & Cut'

The subject of how to increase efficiency is now being addressed more than ever before in food production and especially in the meat and sausage product industry. Thanks to the kind of intelligent automated systems provided by ITEC, unit costs in the production of sausages are being cut. This is also the case with the new 'SB Weight & Cut', an automatic cutting system that also weighs the goods.

With the 'SB Weight & Cut', the overfill rate - which has hitherto been necessary in the production of sausages - can be cut by more than two thirds. The cutting system is linked to load cells and determines the centre of volume of the product to be cut. Due to this combined functionality, any potential variations in the calibre

of the products and the associated tolerances are included in the step and taken into consideration when making the cut.

Sausages with a calibre of 35 mm or more can be cut extremely efficiently using the 'SB Weight & Cut' while adhering to current packaging regulations. The system has been designed in a way that allows it to replace the preceding SB Cut model without the need for room modifications.

Due to the economic benefits that the 'SB Weight & Cut' brings with its rational cutting system, the ROI (return on investment) is merely a question of production volume. With a single-shift operation, amortisation is possible within 12 months.



ITEC - Ingenieurbüro für Hygiene und Lebensmitteltechnik GmbH, Beckum, was founded in 1990. Around 70 engineers, technicians and administrative staff develop, produce and market automated systems for the food industry, personal hygiene systems, ergonomic aids and machines for processing natural casing.

www.itec.de



Multisorb Technologies Helps Meat Processors Retain

Multisorb Technologies will be participating at TecnoCarne, São Paulo Expo Exhibition & Convention Center in Brazil, August 11 - August 13, 2015. Multisorb will be highlighting its active packaging solutions for fresh and processed meat applications.

As a result of the expanding markets in this region, both fresh and processed meat processors are seeking ways to

extend shelf life to meet consumer demand. They are also looking to increase the geographic distribution of their products and improve the hygiene aspects of providing fresh and safe meat products to retailers and consumers. For over 50 years, Multisorb Technologies has helped manufacturers overcome these challenges by offering cost effective sorbent solutions for managing spoilage and reducing shrink

by extending the shelf life of fresh and processed meats.

Oxygen is the main cause of reduced shelf life for fresh meat, and after a few days of exposure to the oxygen content of air, meat loses its freshness, taste, and visual appeal. By using Multisorb's proprietary oxygen absorbing systems, meat processors can inhibit the growth of spoilage organisms "gaining up



LIMA Separators: High Hygienic Concept



Food safety is a major concern for the meat industry. Each month public health issues are headlining the food and meat processing magazines.

LIMA is one of the leading companies focusing on the development of meat bones separators, deboners and desinewers, so as to minimize the risk of bacteriological contamination. Obviously, the bacteriological level of the raw material, food born pathogen, entering into the separators cannot be improved, but its proliferation and pollution on fresh non-contaminated meats can be limited and eventually avoided.

Company's engineers are convinced that ergonomic design decreases surface exposure, and therefore, impact positively the non-proliferation of bacterium and finally make easier their destruction. Specific design of the meat circuit decreases the dead angles and other favourable areas for microbial germs development. On the other hand, the stainless steel grade and surface treatment, welding quality standard play a significant role. The need for sanitisation chemicals is diminished, which contributes to a greener environment as well as a more profitable global operation.

Further to this, the low energy required for the separation deboning or desinewing mechanical operation minimises the calories transfer, and

consequently impacts positively the temperature of the final desinewed or deboned meat and its quality.

A large hopper facilitates, the adaptation of UV systems or even light flashes, which diminishes the level of bacterium. This wide open hopper concept allows an easy, quick and full access to all hoppers inside surfaces. All parts in contact with the meat are totally disassembled and placed on a specially designed servicing and cleaning sanitisation trolley. LIMA machines are delivered on high adjustable feet to enable an easy floor cleaning and visual control.

All LIMA meat bones separators, deboners & desinewers models benefit from this extreme attention in conception and design.

www.lima.com



to Highlight How Sorbent Technology Freshness and Extend Shelf Life at TecnoCarne

to 21 days of extended shelf life for a variety of case-ready meats including whole muscle beef, ground beef, pork, lamb, veal, kabobs, and other value-added meats.

Oxidation of moist and semi-moist processed meats such as sliced deli meats, pepperoni and beef jerky can result in spoilage, mold growth, rancidity, and loss of color and flavor quality.

With Multisorb's optimized sorbent solutions, processors can better control oxygen and/or moisture in packaging, extending product quality and shelf life. As an innovative industry leader, Multisorb continually develops new technologies to meet market demands and works closely with processors to develop solutions that meet the specific needs of their product. An example of a new innovation is JerkyFresh®, a sorbent

solution specifically designed to retain the quality and increase longevity of jerky products.

Samples of the JerkyFresh sorbent product along with other oxygen absorbing sorbents will be on display. To see these products firsthand and learn more, visit Multisorb at booth # 036C, aisle C. Our technical experts will gladly answer all of your questions.

www.multisorb.com



More efficiency for the “Smart Factory” with ZeroClient via PCoIP

Be more sustainable, cost effective, and resource saving with the new ZeroClient solution by CRE Rösler Electronic GmbH / New opportunities can be found for a networked factory

The trends of the fourth industrial age are: virtualisation and networking. To successfully meet the demands of the industry 4.0, a role transition in many business areas is necessary. An increasing number of businesses are aiming for an ideal “paperless factory”. Cost efficiency and environmental aspects are no longer the only determining factors. Security and maintenance play a far more important role when deciding in favour of a “smart factory”.

Implementation for a successful result

An efficient and manageable data structure can be achieved with a quality management system integrated into the production process. Data can be stored and accessed through a central server. Like this, information about a production stage can be accessed directly by the relevant employee. Such a server solution ensures that information is always up to date. With the size of data networks and the number of connected computers, it becomes increasingly important to have a centralised IT infrastructure. In particular, the new ZeroClient solution by CRE Rösler Electronic GmbH provides new opportunities for a networked factory.

Sustainable, cost effective, and resource saving

The new development by CRE Rösler Electronic is a ZeroClient implemented in the industry monitor, which connects to the server using PCoIP. This solution offers excellent graphic performance and exceptional ease of use, even with HD video or 3D graphic applications. Process values are displayed immediately and commands are transmitted instantly.

ZeroClient belongs to the category of

ThinClients. In this case, it is a server-based technology. Here, the keyword is virtualisation. With this technology, servers that were previously physically separate can be combined on one server, with optimum distribution of processing power.

The PCoIP technology is the link between central computer servers and data storage as well as non-centralized operating units or mobile workspaces. Local CPU power is no longer a necessity since both the software and output image can be transferred by the central server to PCoIP enabled devices.



For an operator, there is no difference between working with a local computer and working with a ZeroClient, which receives the computer output via PCoIP and displays it on their monitor.

Advantages of using ZeroClients:

- Less expensive hardware
- Hardware-independent software
- Electric and environmental cost savings
- Faster integration into company network
- Low security risk
- Platform independence
- Maximum utilisation of servers through virtual linkage

- Better scalability of server (Demand <-> Performance)
- License savings due to availability of client pools
- No panel PC maintenance and care necessary
- Upgrades only need to be made at back-end server
- Efficient, centralised management
- Also suitable for use with mobile devices

Applications for ZeroClient via PCoIP

This innovation by CRE Rösler can be implemented on all industry monitors. This means that there is a wide range of products for its use.

Thanks to the flexibility of modular PC systems, adequate and cost-efficient hardware can be made available for all industry applications.

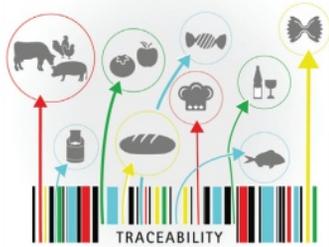
The optimum performance offers high capacity with reserves for tomorrow's software.

- 15", 19", 21.5", and 24" displays
 - Long-term availability
 - Security of investments due to upgrade capability
 - Scratch and shock proof multi-touch
 - Housing and touch-glass conform to IP65 / IP69K
 - Weight of only 6 kg - 14 kg
 - Sleek, fanless design
 - 230 V / 24V DC voltage
 - VESA mount, 100 x 100 mm, Optional quick change attachment "QuickLock"
 - Optional: 2D scanner, RFID reader, Bluetooth
 - Maximum availability class 5 (optional with QuickLock)
- Refined operating concepts with maximum flexibility is the long-established focus of CRE Rösler Electronic.



CSB-System
INTERNATIONAL

CSB-SYSTEM DEMONSTRATES SOLUTIONS FOR EFFICIENCY AND TRACEABILITY



IT solutions for optimising production, providing automated data capture and ensuring full traceability for many different types of food products will be key highlights of the CSB-System stand at Process Expo.

The company will demonstrate the capabilities of its Manufacturing Execution System (MES) which provides full control of production in real time, and the benefits of an integrated traceability system that links all areas of operation- from raw material procurement, processing and packing to onward despatch - through a single central database to monitor and report back on the progress or whereabouts of a product at any time.

Also on display will be the company's CSB-Rack® industrial IT workstation for automated data capture that combines picking, weighing and price labelling in a single operation.

The CSB-System MES initiates, responds to and reports on all activities taking place in production, providing up-to-date information such as machine utilisation, stocks in hand and throughput times. This enables companies to react quickly to changing circumstances and reduces non-value adding activities, leading to optimised production and process flows. MES also helps to meet secure batch traceability requirements, and the ability to retrieve quality-related

process data eliminates the need for any sub-systems.

CSB-System's traceability software enables businesses to obtain International Food Standard (IFS) 'higher level' certification, meeting all legal requirements and providing an enhanced quality management system that helps to reduce costs and improve overall production efficiencies.

The CSB system is also able to link to external consumer databases such as fTrace and Mynetfair to meet growing demand from end-customers to check the authenticity and history of the products they are purchasing.

Each traceability system is tailored to specific customer requirements taking into account particular national and international standards or regulations, including EU hygiene regulations, HACCP (Hazard Analysis and Critical Control Points) requirements, ingredients and

nutritional information, and COOL (Country of Origin Labelling).

CSB says an integrated system also helps to reduce manual information inputting for enhanced accuracy and control of production, with online capture of data directly at source which in turn minimises the costs of documentation and labelling.

As part of the process, the CSB-Rack® is able to capture operating data online in real time at the point of origin, which is then directly imported into the CSB-System. From procurement of raw materials across all processing stages and quality management to complete labelling of the products, all traceability requirements are integrated in a way that reduces documentation expenses and keeps labelling to a minimum. In addition, by combining picking, weighing and price labelling in a single operation, unrelated, multi-stage processes in price labelling are eliminated.

www.csb.com





Energy-Saving Cooling Tumbler ESK®

The top quality VAKONA Energy-Saving Cooling Tumbler ESK® were developed for the usage in butcheries, gastronomy companies, canteens, as well as the production of convenience, fine foods, poultry and doner. As the machines are available in sizes from 60 - 1500 litre volume, they come to use in small handcraft businesses, as well as in industrial plants.

With the standard tumbling arm of the machine it is possible to massage, tumble, salt and marinate all kind of meat, poultry and fish products. Furthermore the machine can be equipped with an optional mixing arm and be used for the mixing and massing of all kind of foods, for example meat products, fish, fine foods, salads, etc.

The user-friendly VAKONA touch screen control can store up to 99 programs. All parameters of the programs can be set individually, for example working time, pause time, temperature, vacuum level, aeration intervals, as well as the

container position and an automatic swivelling of the container.

The stainless steel direct-cooling system (sandwich theory) cools the container to the set temperature in shortest time. The excellent insulation of the container guarantees a constant temperature during the complete process. The precise temperature control and monitoring will lead to a significant improvement in the quality of the products.

The vacuum system of the ESK® machines is equipped with a high-end vacuum pump, which is controlled with the touch screen control. The required vacuum value and up to three automatic aeration intervals per hour can be set in the program sequence. A sterile filter system decontaminates the aeration air when the vacuum is released. By the tumbling process under vacuum the added brine is bonded into the microscopically smallest meat cell. This applies for all kinds of pickled products. By simultaneous removal of the oxygen



the colour and colour-stability are decisively improved. The normal loss of weight is clearly reduced.

The easy cleaning of the machine, due to the rounded design, as well as transparent hoses, an automatic water separator and the scraper with press button system allow perfect hygiene and inspection. All machine components which come in contact with the product conform to FDA guidelines.

The VAKONA Energy-Saving Cooling Tumbler ESK® require a minimum of maintenance works and due to the low power consumption environmentally friendly. The standardization of production processes by the usage of defined program procedures result in an improvement in the product quality, time savings in the production process and an increase of sales.

www.vakona.org





TOMRA SORTING SOLUTIONS EQUIPS ITS BELGIAN TEST AND DEMO CENTER WITH NEW COLD ROOM

TOMRA Sorting Solutions has installed a brand new 56 square meter cold room in its test and demonstration center in Leuven, Belgium.

Thanks to its new facility, TOMRA Sorting Solutions is now able to test the performance of its sorting machines for all individually quick frozen (IQF) products in a true-to life environment.

The conditioned room can accommodate two sorting machines at the same time, enabling parallel testing and comparisons. It features an indirect cooling system, fully controlled automatic access doors and LED lighting.

"It's a fact that sorting performance and results are affected greatly by the external environment. Defrosting, sticking of the product and changing defect conditions are known issues when testing IQF products. Normal operating temperature in IQF production

facilities is around five degrees, but we can set our cold room as low as minus two degrees," says Wim Van Doren, Sales Application Manager at TOMRA Sorting Solutions.

He adds: "Our investment in this cold room allows our customers to see the sorting line in realistic circumstances and they can see first-hand the capabilities of our machines operating in these severe conditions."

Should TOMRA need to test its machines in a hot climate, special heaters can warm the room from its standard minus two degrees to sixty degrees.

The room is attached to the company's existing test and demonstration hall by glass windows. The entrance is provided along the current demo center and the back of the room has a large roll up gate that enables large sorting machines to be moved in and out easily.

TOMRA's new cold room will be managed by Wim Van Doren's demo team, but it will also be used by other departments, such as research and development (R&D).

"The cold room can be implemented as well for long-term validations/trials of sorting machines for R&D purposes, to serve our customers even better," adds Van Doren.

In June 2014 TOMRA Sorting Solutions installed the first cold room in its state-of-the-art facility in Sacramento, United States of America. TOMRA Sorting Solutions runs fifteen test and demonstration centers worldwide providing services for the development of sensor-based sorting projects for the food, mining, recycling, tobacco and virgin plastics industry to provide their customers with the best possible service. Six of their fifteen sorting solution centers are solely focused on food with each providing different food testing possibilities.

For the North American market TOMRA can invite customers to one of their two test and demonstrations centers in the USA, located in Denver, Colorado, and Sacramento, California. In Asia TOMRA also has two test and demonstration centres available, located in Saitama, Japan and Xiamen, China.

If you are interested in a test and demo with your own product, please contact TOMRA's local sales managers via food-sorting@tomra.com. TOMRA Sorting Solutions has special (freeze) cool storages available to preserve your product.

www.tomra.com

**Wim Van Doren,
Sales Application Manager**





FALCON Power Boneless Perfect For Fresh And Frozen Boneless Products

Cutting in the fast lane. The portion cutting machine FALCON Power boneless works at a fast speed, at the same time remaining extremely precise, as you have come to expect from the FALCON machine models.



No one can afford to be without the FALCON Power boneless when it comes to fresh or crust frozen boneless products, like minute steaks (cutting to a specified weight or slice thickness). The product is loaded continuously, end to end without a gap - without the need for a gripper, thereby delivering power, speed and a high yield.



The proven 4D camera system for product measurement guarantees the machine's excellent results. The driven contour downholder guarantees that the product remains secure and stable during the cutting process. The products are cut leaving virtually no trim.

About TREIF

Started by Toni Reifenhauer in 1948, TREIF has grown into a master of developing and building some of the most sophisticated food cutting machines available in the market. Specialising in all relevant cutting techniques, TREIF's product range is comprised of Slicers, Dicers, and Portion Cutters.

Formerly operating as an agent in the UK market until 2013, TREIF UK are now based in Ellesmere Port, Cheshire, and boast a fully operational demonstration unit for customers to see the machines in action first-hand.

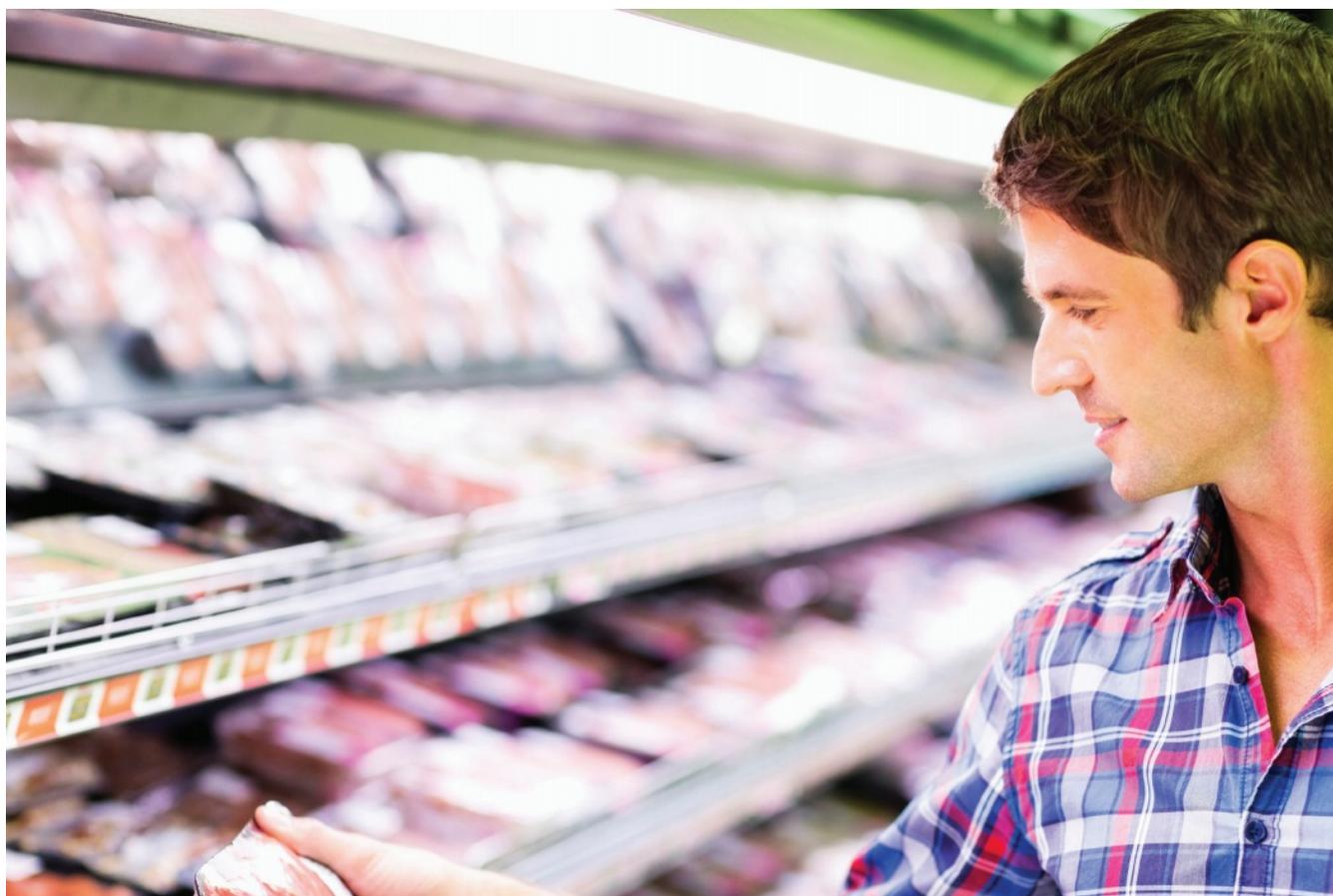
In addition to selling machinery, TREIF also offer Technical, Spare-parts, and Training services to ensure that your machinery and equipment always operate to their best ability and continuously achieve their performance spectrum.

www.treif.de



“Meating” the time challenge: extending the shelf life of meat products

By Lonneke van Dijk, Corbion Purac



Food waste is a growing problem for the international community with one third of the food produced for human consumption - approximately 1.3 billion tonnes - being wasted every year.¹ In addition, of the 263 million tonnes of meat produced globally each year, 20 per cent is lost or wasted despite its high economic cost.

Food trade is becoming progressively more globalised for most countries, as more and more food manufacturers attempt to reach different markets. This inevitably forces supply chains to be larger and more complex. As such, vulnerable produce including meat,

which typically has a short shelf life, is required to stay fresh for longer.

According to a study commissioned by the EU, meat wastage occurs throughout the entire supply chain, be it during agricultural production, post-harvest handling and storage, processing and packaging, distribution or consumption.³ This may be due to a number of reasons including degradation, poor inventory management or not meeting specifications for quality. The latter is particularly true at the retail level. Consequently, food often doesn't even make it into the consumers' shopping baskets. Food retailers

and supermarkets therefore require products to maintain the desired visual appearance, smell and other quality elements for longer durations whilst on the supermarket shelf to reduce waste and improve economies of scale. As with other perishable food products, advancements in ingredient technology for meat are allowing meat processors to increasingly extend shelf life to meet the demands of retailers.

Popular ways to extend shelf life

Shelf life depends on the degradation mechanism of the specific product. Meat, in particular, can be influenced

¹ FAO, SAVE FOOD: Global Initiative on Food Loss and Waste Reduction, 2014

² *ibid.*

³ Science & Technology Options Assessment (STOA), Technology options for feeding 10 billion people: Options for Cutting Food Waste, October 2013



by several different factors including heat, moisture and contamination by micro-organisms. As such, there are several options when it comes to shelf life extension.

Salting is one of the most common and ancient ways of preserving meat. Via absorption, the salt draws out any moisture from the meat and creates an environment inhospitable to bacteria. This extends the meat's shelf life by preventing meat spoilage. The more salt is added to the product, the longer the preservative effect. The same is also true for sugar, which is often added to food as an alternative to avoid the strong flavour inherent to salt.

Similarly, artificial food additives, such as nitrites and benzoates, can be used to preserve meat due to their antimicrobial effect. They may also act as antioxidants, making meat more acidic, reducing the moisture level, thus slowing down the ripening process and preventing the growth of microorganisms, all of which help the meat last longer.

Other common ways of controlling shelf life include refrigeration, freezing and packaging. Refrigeration is the obvious solution to controlling meat's exposure to heat. The idea behind this method is to slow down bacterial action so that it takes food much longer to spoil. In the case of freezing, the aim is to stop bacterial action altogether, since frozen bacteria are completely inactive. In addition, neither refrigeration nor freezing are likely to have an effect on the food's taste or texture.

In traditional meat handling, fresh meat is generally not packaged at

all. However, this customary system has gradually become outmoded since more time is needed between slaughtering and final consumption. Meat frequently has to be stored, transported, prepared and distributed through a retailer or supermarket, all of which is considerably time consuming. As such, many varieties of packaging have been developed to safeguard meat throughout this extended process.

The primary purpose of packaging is to protect foodstuffs from contamination by dirt and micro-organisms. This can be done by simply wrapping the meat in film, allowing air to the meat but protecting it from physical contamination for approximately one to two days. More advanced techniques, however, such as modified atmosphere packing or vacuum packing can extend shelf life from one to two days to up to ten days, by preventing oxidation.

Effect of current market trends

There are several market trends which drive changes in meat preservation. For instance, global research shows how the clean label trend has gained pace in many regions.⁴ The demand for additive-free, natural foods is accelerating day by day and shows no sign of abating. Preservatives are a recurring topic in public discussions, with many consumers associating them with harmful chemicals. When it comes to on-pack messaging, free-from and naturally-derived ingredients are a key differentiator for many label-conscious consumers. As such, The European Parliament, in partnership with the European Council has set out a detailed labelling

system for food additives to enable customers to make informed choices with regard to foods containing preservatives.⁵ Manufacturers are therefore increasingly considering what ingredients to use in their formulations, as well as how they label them on the pack, as they seek to stand out from the competition.

Overlapping with this demand is the trend for healthy eating. With mounting evidence that excessive sodium intake can lead to high blood pressure and heart disease, there is considerable pressure from scientists and public health authorities for mandatory salt limits.⁶ At the same time, awareness of the nutritional effect of excess sugar is having a similar impact, encouraging food manufacturers to reformulate their recipes.

At the same time, consumer demand for "fresh" products is rising. Alongside the popularity of convenience foods, consumers increasingly expect freshness on demand, with freshness being intrinsic to quality perception. A significant factor affecting consumers' quality perception of meat is its appearance. Macroscopic meat aspects like colour are important visual cues, which consumers often correlate to product freshness. In addition to signifying quality, freshness is also perceived as the most helpful factor in assessing safety at the time of purchase.

The reformulation challenge

Reformulating to adhere to consumer trends can create significant challenges for meat manufacturers. Aside from influencing shelf life, ingredients such as salt also enhances

⁴ Datamonitor, *The natural and clean label market opportunity (webinar)* (June 2013)

⁵ The European Commission, *Food labelling: EU rules*, http://ec.europa.eu/food/food/labellingnutrition/foodlabelling/index_en.htm (November 2012)

⁶ Food Standards Agency, *2017 UK Salt reduction Targets*, <http://www.food.gov.uk/scotland/scotnut/salt/saltreduction#.U8ZTnkCGfcs> (March 2014)



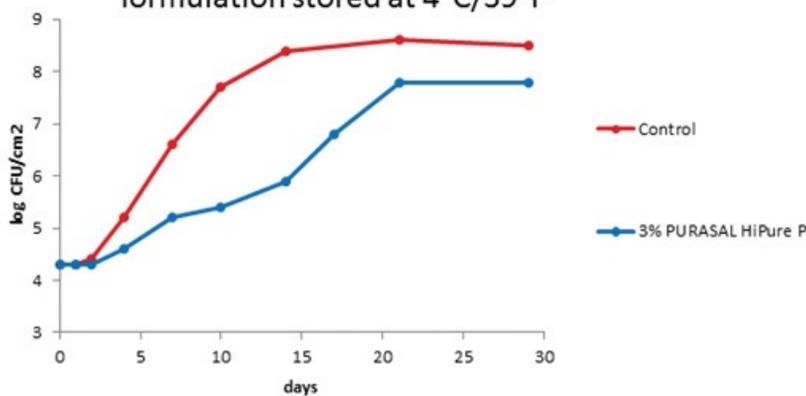
Corbion

flavour and imparts a certain texture and mouthfeel, contributing to the overall sensory properties in processed meat. As a result, the removed or reduced ingredient must be replaced by an alternative ingredient which not

metabolism, lengthening shelf life by 50 to 100 per cent. Using such ingredients is one way of meeting today's shelf life requirements, providing extra flexibility for retailers and convenience for consumers.

significant in fresh beef, where tests have shown that the use of PURASAL can preserve red meat colour for up to six additional days.

Lactobacillus sake growth in frankfurter formulation stored at 4°C/39°F



only extends product shelf life, but also stabilises recipes and enhances taste and texture. Moreover, the ongoing trend toward natural, additive-free products poses an ever greater challenge, as it further reduces the amount of salt alternatives available on the market.⁷

Natural, non-sodium ingredients are a viable option to replace salt and chemical preservatives in food products. Organic acid-based salts, such as potassium lactate, are often used in fresh and cooked meat products to extend shelf life and increase food safety. Lactate solutions, such as those offered by Corbion Purac's PURASAL® range, have a bacteriostatic effect on meat, inhibiting the growth of microorganisms and increasing the dormant phase of bacterial growth. This is achieved by reducing water activity and lowering bacterial

Besides preservation, lactates can also maximise the quality of meat products. They can help meat manufacturers meet reformulation challenges head on as they deliver the salty taste of processed meat products, whilst allowing them to decrease actual sodium levels. In addition to this, they also improve the overall quality of meat by enhancing tenderness and juiciness, overcoming some of the issues associated with the removal of salt. As such, meat formulated with lactates exhibit increased sliceability characteristics by increasing breaking strength, cutting shear force, hardness and springiness.

Inclusion of lactates in meat also slows the degradation of myoglobin into metmyoglobin, whose presence is commonly associated with the red colour of fresh meat. Adding lactates, such as Corbion Purac's PURASAL, improves colour retention. This is most



Fresh beef after 7 days without treatment



Fresh beef after 7 days treated with 2% PURASAL P HiPure Plus

Extending shelf life the natural way

In line with consumers turning away from food products containing unfamiliar or chemical sounding additives, food producers are exploring natural options for food ingredients that are sustainable, reliable and maintain product quality throughout its shelf life. Corbion Purac's label friendly ingredients can offer a viable alternative. Produced from natural raw materials such as cane and corn sugar, through natural fermentation, the Verdad® range of label friendly ingredients improves the overall quality including prevention of bacterial growth. When blended with a source of acetic acid, such as

⁷ Lack of 'Magic Ingredient' for Sodium Reformulation Necessitates a Partnership Approach to Retaining Shelf Life in Foods, Euromonitor (July 2013)

... **SHELF LIFE** ...



Corbion

vinegar, these natural ingredients act as a highly effective barrier against pathogen growth, such as Listeria.

In addition to improving overall quality, including anti-microbial performance, the range also meets demand for decreased sodium content, while simultaneously improving the sensory profile of the meat. The addition of vinegar to fresh pork and poultry products can equally contribute to maintaining colour uniformity and reducing grey discoloration during shelf life.

Conclusion

Meat products provide a perfect

environment for microbial growth, due to their high moisture content and rather neutral pH. However, the requirements for longer shelf life of meat products, be it fresh meat or cooked ready-to-eat products, are multiplying, thanks to longer and more complex food supply chains. As a result, food is required to stay fresher for increasing amounts of time. At the same time, traditional methods of preservation, such as salting and the use of artificial food additives, are insufficient in meeting today's consumer demands for fresh and healthy products. It is therefore vital, that product developers carefully consider the ingredients available to them when reformulating their

recipes. Ingredients from Corbion Purac offer label friendly solutions to control microbial spoilage, increase shelf life and enhance the overall quality of meat, all while satisfying consumer demand for clean and healthy products.

About the Author:

Lonneke van Dijk is Marketing Manager at Corbion Purac. She is responsible for the marketing of meat preservation solutions in Europe, Asia Pasific, Latin America, the Middle East and Africa.

www.corbion.com/food

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WE'RE ON OUR WAY TO CHILE!

McDonald's: Fast Food has Slowed Down

By Henk W. Hoogenkamp

McDonald's is seen as the mother of all burger joints and together with Apple the most potent symbol of America around the globe. The US is by far the largest market for McDonald's, where it has 14,200 of its 35,000 restaurants. McDonald's is squeezed by competition; not only from a revitalized Burger King, but also from other fast-food companies such as KFC, Chick-Fil-A, Five Guys, In-N-Out, Subway and Starbucks.

Seismic Shift

McDonald's is seriously worried about tough competition from so-called upmarket "fast-casual" chains that offer "healthier food" and more sophisticated service. There is little doubt that the fast-casual segment is currently outgrowing the fast food sector. There is a permanent seismic shift in the way people perceive and consume food. This shift fundamentally undermines the core business model of McDonald's.

There is little doubt that McDonald's is suffering from an identity crisis. When everything is said and done it comes down to its basic Big Macs. The core customers identify the Golden Arches for cheap and quick food. Yet during the last decennia McDonald's has tried to appeal to more finicky eaters who have moved the expectations to high-quality while still demanding cheap and fast. It is clear that McDonald's food story is no longer aligned around the consumer's definition of quality and value. Literally and figuratively, consumers have become a moving target for the food industry.

McDonald's food isn't necessarily healthy though for many years have appealed to Americans' appreciation for consistency, convenience, fast,

and inexpensive. In the past 60 years McDonald's has been an amazing innovator and should be given credit for successfully pioneering many new fast-food trends. Yet somehow along the way McDonald's has lost its luster and sidelined its entrepreneurial instincts.

For an increasing number of people, the relationship with fast food has changed and the quality expectations and environmental accountability have also risen. The change is subtle but real. The Millennials in the US comprise a demographic group of about 80 million people, and it is surprising that this important segment of consumers do not rank McDonald's in their top 10 most favorite restaurants (Advertising Age, 2013).

McDonald's needs to try new strategies to restore sales growth, while keeping their eyes on its core burger business. For the some 14,000 outlets in the US, same-store sales have fallen over the last five years. McDonald's has tried many tactics to reinvigorate its business including going "healthy" and a greater level of transparency. All these tactics have failed, some more than others. Perhaps the conclusion can be made that higher quality and faster serving speed don't go together. Because of the kitchen complexity, McDonald's is no longer fast and its burgers no longer perceived as good tasting delicious. These are the main two challenges that need to be fixed before going forward. The latter is also true for the drive-thru lanes: too many cars in the line-up often translate that other cars turn around and take their business elsewhere.

Maintaining Purity for the Happy Few

Given the proliferation of US-

dominated fast-food choices, the fast-food industry has serious ecological, ethical, and socio-economical responsibility to deliver optimal nutrition. This is most critical in cases where fast-food marketers offer water-added meat and poultry products which -unfortunately- often contain added fillers such as starches, salt, and phosphates as water binders instead of formulating using premium plant protein ingredients, including extruded structured products that uniquely mimic and match lean meat sensory properties.

In principle there is nothing wrong with "exporting" originally American food and meat standards. However, to insist on 100% pure beef for regions with far less disposable income and significantly different taste preferences is a form of ideological myopia. It is difficult to comprehend why huge amounts of money are spent to promote 100% beef patties, when such product purity seems irrelevant for pork, poultry, or fish-based foods.

While most of the rapidly increasing world population remains staunchly carnivorous, the markets for meatfree and hybrid meat foods are expected to increase significantly. These categories -also called lifestyle foods- are driven by the customers' greater health awareness as well as their desire to be more sustainable and ecologically responsible. Globally there will be no other choice than, at some time in the future, to actively embrace hybrid meat technology solutions.

It is fair to ask why American fast-food companies -most notably McDonald's- spend so much time and energy to assure customers that their beef burgers are formulated using 100% pure beef. There is no mention

of country of origin, use of antibiotics, hormones and spraying water on the patties after freezing. What makes beef so special in comparison to chicken patties and nuggets in which the use of phosphates, salt and starchy carbohydrates is commonplace? Ultimately, the fast-food companies will have to accept reality that beef prices will increase to the point that affordability and sustainability become controversial. There is little doubt that ecological sustainability of increased beef production, primarily to serve pure beef burgers to the happy few that can afford it, will suffer by huge amounts of human



food redirected to feed animals and also contributes to the depletion of fresh clean water.

Corporate Culture

Arrogance and complacency has found a stronghold into the McDonald's business organization and especially mid-level executives at the Ivory Towers in Oak Brook Illinois have created an inward-thinking culture which stalled or severely slowed down innovation as well as adequately addressing emerging environmental issues and underestimating the changing socio-dynamics of the young generation. For example, an intimate relationship between McDonald's executives and their exclusive (meat) suppliers often caused a hostile environment for experts who brought ideas to adapt menu-board philosophy in order to stay ahead of the curve.

Senior management like to portray the image that change is part of their business culture in order to keep up with customer expectations and demands. Burgers, fries, shakes, sodas are still synonymous for their core business. Prior to the world recession that started in 2008, McDonald's predominantly catered to the so-called "heavy users" of customers who ate full-meal selections several times in a week.

Millennials

For the US, these demographics have changed considerably for the 18 to 34-year-old consumers. Millennials' - or Generation Y- is the last generation born in the 20th Century. This generation, born from 1980 onward through 2004, has been raised using digital technology and social media. Millennials' are the demographic group that reached adulthood in the early years of the 2000s, are moving

away from McDonald's in part because outdated and harsh design ambience, the source of ingredients, unhealthy fat and calories, including oversized sodas. It seems that McDonald's is in need to tell a better story and an invigorated company culture.

The Millennials are the children of the baby Boomers (1946-1964) and value work-life balance more than other generations. Although the Millennials' are expected to be less economically successful than their parents, it has been argued that they have a higher degree of confidence, spilling over in entitlement and even narcissism. The Millennium generation tends to be skeptical about conventional promotional marketing and is more likely to listen to their social media Facebook friends. It is a different way to connect with friends and define one's food personality. Millennials clearly favor "apron-like" foods, a terminology to qualify foods that are made by a chef, rather than "lab-coat foods" that are perceived as overprocessed and have lost the touch of nature.

Actually, McDonald's problems to communicate and capture solid business with the many people under the age of 35 are not unlike what US carmakers are experiencing. Several studies show many Millennials are part of the rising popularity of car-free urban living. As Millennials grow older there is evidence they are favoring a life without the idea of car ownership. Young people are more likely to take public transport and favor technology instead of cars as a cultural touchstone.

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

these patterns are evolving. The most obvious sign of change is the fact that Millennials' will surpass baby boomers as the largest living generation in 2015. The Millennial customer prefers less processed food and favorite menu components that are made to order or can be customized. Consumption of fresh foods, including vegetables, fruits, meat and poultry grew by 20 percent from 2003 to 2013. Looking at it from a different perspective, more than half of food and beverage consumption now happens when consumers are alone, not to mention the fact that households of only one person -27 percent in 2015- are at the highest level in the US history. The trend of dining solo will grow in the years ahead.

Ineffective Marketing

Perhaps it can be concluded that McDonald's continued their conventional marketing strategies too long and on hindsight can be seen as ineffective keeping pace with the changed food preferences of the younger consumers. In that sense it may be concluded that the biggest factor appears to be the absence of an emotional connection to McDonald's. There is a whole generation of kids growing up in the US who are embarrassed to be seen at McDonald's. They have outgrown the "kids-meal" age and McDonald's marketing brass have misinterpreted social media and are now clueless what has hit them. For a growing number of people the slogan translates into "I'm not loving it". No wonder some large investors are calling for a shake-up of the McDonald's Board of Directors.

For generations McDonald's was a favorite place for hungry people looking for simplicity, speed, consistency and affordability. Not any longer. It now seems that the younger

generations are attracted towards chains like Chipotle, Five Guys, Chick-Fil-A, Shake Stack, Panera, and In-N-Out. Chick-Fil-A continues to evolve from a regional to a national chain that lives by the image of "fast food done right". These fast-casual restaurants offer a simplified menu-board; yet provide more freshness, customization, quality, ambiance and (perceived) superior nutrition.

Competitors aren't necessarily healthier but they certainly have a more compelling story to tell: 100 percent "all-natural", no-water added, no hormones, no antibiotics, and preferably locally-sourced produce. The younger customers are applauding commitment to freshness, animal welfare, and a restaurant standing by its business principles.

An attempt to bring back the love of Millennials is to revamp certain main food items such as grilled chicken. Starting in the US and Canada-antibiotic-free chicken breast, artificial flavors, sodium phosphate, maltodextrine, flavors, colors, preservatives and liquid margarine, which include hydrogenated oils, are a thing of the past. For McDonald's the new way forward is to use chicken breast and many more natural and recognizable ingredients such as spices, sea salt, honey and herbs.

Naturally Free From

Antibiotic use in chicken, cattle and hogs has become a hot button issue with consumers and activists. It is a known fact that antibiotics can lose effectiveness in treating human germ-related illnesses, when the same drugs are also used in farm-raised animals. A possible move to go antibiotic-free can certainly be seen as landmark decisions, which will hugely impact the entire chicken, outgrow chain. It

is estimated that McDonald's sells about 3 to 4 percent of all chicken harvested in the US, a number that very well can be much similar for the rest of the world.

In the rapidly changing food-world it is even plausible that quick-service restaurants will offer an all-day breakfast option as consumers demand breakfast beyond the early morning hours. Such a move could be part of a turnaround strategy aimed at improving restaurant experience for the younger generation.

Even though McDonald's has a massive global supply chain, the



drawback is that their rich-choice menu-board slows down service, increases kitchen errors while prices are only markedly lower than freshly prepared foods. Consumers indeed can be overwhelmed by too many menu-board choices and -besides keeping the independent franchises happy- McDonald's need to reinvent their model to bring back relevance to its core customers.

The iconic Golden Arches now are confronted with dark clouds appearing on the horizon. In particular the younger customers have higher expectations about quality and taste. McDonald's may be everywhere, but it no longer stands for anything. Along the way the company seems to have lost its way by trying to be all things at the same time.

Many of the "healthy food" offerings by McDonald's -including salads- have never accounted for more than a few percent of sales, not to mention the miserable failures of Mighty Wings, Lean DeLux, McPizza, and the public relation nightmares caused by using "pink slime" in their "100% pure beef burgers" (Lean finely textured beef treated with ammonium hydroxide to kill off bacteria such as E.coli), the HUSI China chicken scandal (2014), and by reading "Fast food nation: The Dark Side of the All-American Meal".

Over the last few years McDonald's is clearly confronted with a customer relevance problem. There are simply too many other choices that offer better taste, quality and ambiance. For a company like McDonald's perhaps the answer is to look less like McDonald's.

Chipotle

It is clear that consumers have discovered competitors who

specialize using higher quality of fresh ingredients, which nearly always translate into more perceived healthy food and better taste.

McDonald's acquired the burrito empire Chipotle in 1998, which by then had only 13 restaurants. Under direction of Jim Cantalupo -CEO- the Golden Arches divested its stake in Chipotle in 2006, a time at which the burrito company had grown to about 500 stores. Although McDonald's made a nice profit on its Chipotle investment, in the end it got the short end of the stick.

Unlike McDonald's, Chipotle is committed to fresh, high quality ingredients at only slightly higher prices. "Food with Integrity" is the hallmark of Chipotle. Probably it is safe to conclude that McDonald's has not timely recognized the changes in consumers' tastes and appetites. As a result, a new wave of "fast-casual" dining has emerged: Fresh, "made-to-order", and in an ambiance that is favored by the Millennium generation. If you look at food as a means of establishing one's freedom, the fast-casual food competition has gotten much stiffer.

Chipotle is accelerating new restaurant openings to boost sales. In 2015, the chain will grow from roughly 1,800 locations to 2,000 restaurants, averaging nearly US\$ 2.5 million each. To be fair, one of the few variables that can significantly slow down the company's profitability are increased food costs. Especially beef pricing is an uncertainty that can affect menu prices and thus influence profits.

Stepping into the Future

Back to the future: walking into a McDonald's outlet, customers do not

have to queue at the counter. Instead they go to a touch screen to build their own burger. By choosing from a long list of buns, toppings and sauces they customize pay and wait at the table until a server appears with their food and drinks. It is expected that McDonald's will have these "Create Your Taste" burger restaurants in full operation at some 2,000 US locations by early 2016. It can be argued that the Millennial-friendly "Create-Your-Taste" platform of custom ordering via a kiosk not only is too costly for franchisees, it's irrelevant for the drive-thru lanes, which is up to 70- percent of McDonald's business.

The Create-Your-Own -ordered inside the restaurant from a tablet- will cost franchisees about \$ 100,000 per store. These costs, together with investments for espresso machines at \$ 24,000 and "high-density prep tables" will frustrate franchisees, especially knowing that customer waiting times will go up even more. "Create Your Taste" lets customers customize their burgers with fewer options. Called "Taste Crafted", the streamlined service will still give the customer choices, but aims to speed things up in the service-line and drive-thru. The idea is to quickly introduce more choice to the customers and allow greater customization. The verdict is still out and time will tell if the new McDonald's strategy will stick with their customers.

This new McDonald's business model seems to run contrary with the current model and its need to simplify the American menu board options, which now has almost 200 items. Many analysis and industry observers believe that the huge selections not only strain the kitchen staff and annoy franchisees, but also confuse customers.

Another option for McDonald's to ramp-up sales is to focus on regional product roll-out. This move would empower the 22 US regions with more autonomy around product development and promotion. Localizing the menu-board will resonate more with the local consumer and allows to zero-in on different customer expectations. To make this strategy happen it will be essential to simplify the menu board which subsequently will significantly reduce the clutter and make it easier for improving order accuracy and drive-thru service speed.

McDonald's identity crisis -especially among younger customers- is perhaps the way forward to go back to basics, offering limited range of menu choices at low prices, served freshly and quickly and stop trying to replicate all its rivals.

All of this is easier said than done. Especially being Number One makes a company such as McDonald's an easy target of special interest groups ranging from food activists, animal-rights campaigners, labor activists, shareholder activists and all those people who simply dislike things that represent the values of America. In a way, special interest groups, including influencers who often have a hidden agenda and portray the image that obesity started by eating over-processed calorie-laden fast food, have hijacked McDonald's corporate image. As the New York Times pointed out, many consumers see McDonald's as "the company that made American fat".

Too Much Reactive

It is time that McDonald's starts to be pro-active again and in control of its own message. In a nutshell,

McDonald's can't afford to miss out on higher-quality ingredients, including embracing plant protein created foods to show its commitment to sustainable and healthy food options that interest the younger generation as well as satisfying the expectations of an informed and affluent market.

Not only is McDonald's to downsize the number of unprofitable restaurants in the US, they are also to downsize meal portions delivering 660 to 820 calories. This will be the new normal. Diners can substitute bottled water or soda or apple slices for fries at no additional charge, indicating the chain is looking to promote healthier alternatives. Also the kids-meals are in a major turnaround with offerings of less or no fries, no sugar-laden soft drinks, and more fresh fruit portions.

The reasons why McDonald's is slipping (and competition winning) are "fresh food-never frozen", high level of customization, clever pricing, appealing ambiance, and no corporatization of the food. Competition is also seen as more socially responsible alternative. The March 2015 announcement by McDonald's to go antibiotics-free for their poultry foods by 2016 is a step in the right direction. It is likely that the heavy poultry users, including big-name fast food companies, now will adopt similar policies and start working toward eliminating protein produced with the use of antibiotics medically important to human health.

Consumers have wised-up to hyper-processed foods using unidentifiable additives and are now very food savvy and once accustomed to higher-quality they are reluctant to go backward. The public is becoming more enlightened about less taste

impressions, negative health and environmental consequences of their food.

To repair the Golden Arches will be a super-sized job: 2014 income fell 2.4% vs. 2013 and net income dropped 14.8%. Not just McDonald's USA, also McDonald's Japan has initiated massive restructuring after a series of food scandals and product shortages bit into the company's earning forecast. McDonald's Japan is clearly struggling to regain consumers' trust after the safety problems while strong headwinds from intense competitive pressure have compounded the financial problems.

The message for McDonald's is clear: most consumers want simple, freshly prepared food and they don't want to eat something that is manufactured or highly processed. The food future increasingly looks non-manufactured. Ideally food should have an aura of "personalized, especially made for me". The question then becomes: How do we create a brand identity that transcends food quality and enjoyment. Perhaps for McDonald's an existential crisis is looming, and few if anyone seems to know what to do about it. It is clear that McDonald's is in dire need for another hamburger breakthrough, not by trying to get more foods on their menu-board.

About the Author:

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Fighting Hunger is Good for Business: How the Meat Industry Can Win With “Cause Marketing”

By Jody Falletta Carman

Anyone who studied marketing is likely familiar with the Marketing Mix, also known as the **Four Ps of Marketing**: Product, Price, Place, and Promotion. In today’s competitive business environment, with consumers ever more connected and informed, marketers are challenged as never before to manage these “Four Ps” to attract and maintain loyal customers. The savviest marketers, however, recognize there is now a fifth “P” of marketing: PURPOSE.

Purpose-focused marketers are discovering the benefits of practicing social responsibility as a core business principle. They understand that linking their products and brands with a social cause (a technique known as Cause Marketing) can be a compelling differentiator, influencing both corporate reputation and consumer behavior. For meat companies, which are often under intense public and media scrutiny, Cause Marketing offers an opportunity for the industry to make positive social impacts and to engage directly with customers, telling them how the industry is addressing some of the globe’s key social challenges. Cause Marketing is not just a B2C concept, but can also strengthen B2B relationships, as buyers, whether B2B or B2C, feel good when they know their purchases are making a positive social impact.

Cause Marketing: A form of marketing that links the sales of a company’s product to a worthwhile project, charity, or cause. Typically, a portion of sales is donated to the charity or cause (Example: 10 cents per package or 1% of profits).

Today’s Customers Demand Support for Social Causes

According to a 2012 survey by Edelman Public Relations, 53% of global consumers agree that when a product’s quality and price are equal, social purpose is the most important purchase factor. This sentiment is growing: it’s up 100% in Japan, 79% in China, and 36% in Germany since 2010.¹ In fact, 93% of global consumers want to see more of the products, services, and retailers they patronize support worthy social causes.² As one recent global consumer survey summarizes: Customers want to be part of Corporate Social Responsibility efforts and **purchasing** is largely their opportunity to do so.²

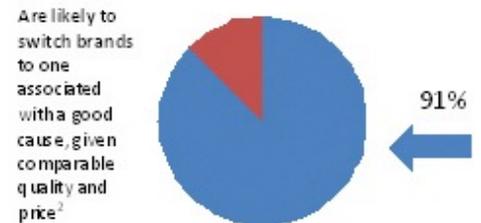
Gain a Competitive Edge

Supporting a social cause can help companies gain a competitive edge. Studies show consumers have a more positive image of a company that supports a good cause. In fact, they will even switch brands and pay a premium for a product or service that supports a good cause, given comparable quality and price. Furthermore, companies that actively and visibly support causes their customers care about can expect to reap financial rewards.

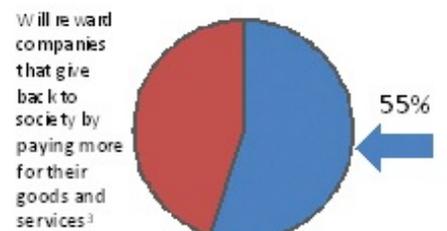
Select the Right Cause: Consider Both Alignment and Affinity

The data above make a compelling case that supporting a social cause, and communicating it to customers, can serve as an important differentiator, generating customer goodwill and influencing consumer purchasing behaviors. However, companies cannot just choose any cause. They must choose the right cause.

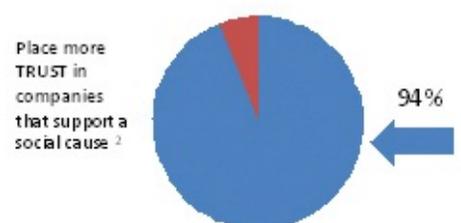
Global Consumers



Global Consumers

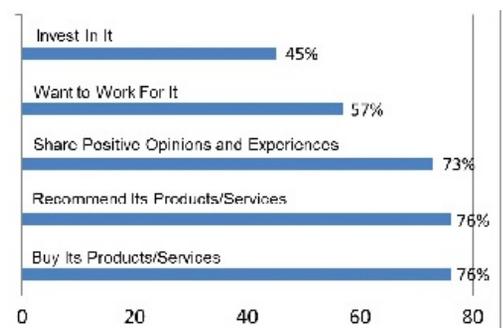


Global Consumers



A COMPANY THAT ACTIVELY SUPPORTS A GOOD CAUSE CAN EXPECT TO BE REWARDED!¹

% of Global Consumers Who will:



When choosing a cause to associate with a product or brand, identifying one that is well-aligned with the product is a must. Qualitative responses from a behavioral study on cause-related purchasing indicated cause-related campaigns were more impactful and easier to understand when the product and cause were aligned (Examples: toothpaste and child dental health; beverages and access to clean water).⁵

To avoid confusion and improve customer engagement, Cause Marketing practitioners recommend identifying a cause that not only shares the values of the company, product, or brand, but that is aligned with the product itself. For meat producers, manufacturers, and distributors, therefore, it is logical for meat companies to align themselves with efforts to fight hunger and malnutrition. Hunger is the most well-aligned cause for the industry to support.

Alignment, however, is not the only consideration. The cause must also matter to customers. In other words, customers must feel some "affinity" toward the cause. Hunger (already identified as the most well-aligned cause for the meat industry) is consistently among the top causes global consumers care about. In fact, in surveys by Nielsen and Cone Communications, eradicating poverty and hunger consistently ranks as a top cause that global consumers wish to support, along with education, clean water, and the environment.^{2,11}

Cause Marketing Achieves Sales Increases

Although Cause Marketing helps create loyalty and goodwill among customers who value the opportunity

to make a social impact via their purchase decisions, it is also a potential profit-generating activity, and should be considered an effective form of marketing worth including in future marketing budgets. Below are the sales results of successful cause-related marketing campaigns:^{6,7}

- **American Express**
28% Increase in Credit Card Transactions
- **ALDO Shoes**
100% Increase in Sales of Cause-Related Products
- **Dove Beauty Products**
20% Increase in Sales of ALL Products (not just those linked to the cause)

farmers and ranchers can benefit from Cause Marketing. For example, a wholesaler can partner with a restaurant by conducting promotions that trigger a donation when a customer selects certain meat dishes. **(For Example: "ABC Wholesalers and George's Steakhouse will donate €1 for all steaks purchased during the month of September!" ABC and George's can share the cost of the donation, each donating 50 cents per steak.)** These types of promotions will let customers know the companies are committed to important social causes, and should increase sales of steaks!

Photo: All sectors of the meat industry supply chain can benefit from Cause Marketing. Here are some examples.

"Cause Marketing" Examples



Equipment Sellers:
Donate €/£10 for every piece of equipment sold.
Set your company apart by including this in your sales pitch.



Butcher Shops, Retailers:
Donate 10 cents for every package of steak sold.
Also, ask customers to donate by "rounding up" to the nearest €/£ at the till. This requires a simple setting of the POS terminal.



Incorporating Cause Marketing Into Your Meat Business

Butchers, retailers, restaurants, packers, processors, wholesalers, equipment manufacturers, even

Don't Forget to Engage Customers

Customers can also play an important role in fundraising, as spare change can add up. McDonald's donated US\$32 million to its Ronald

McDonald House Charity in 2013. However, its own customers far exceeded that amount, donating US\$50 million simply by adding their spare change to donation boxes located at the company's cash registers.⁸ Like McDonald's, butchers and meat retailers can collect spare change at the till. Restaurants can invite customers to donate by adding an extra "tip" to their bill. The more customer engagement the campaign can create, the more the cause will become associated with the product, brand, or company, and the more the company will benefit from increased customer loyalty and goodwill.



Exclusive Opportunity for Meat Companies

A United States-based non-profit organization, The Six-Second Project, is offering the global meat industry an exclusive opportunity to engage in Cause Marketing as part of a global meat industry effort. The organization, whose name is inspired by the Food and Agriculture Organization's (FAO) statistic that a child dies of hunger every six seconds, is recruiting meat industry partners to help raise widespread public awareness of the hunger pandemic through point-of-sale campaigns and Cause Marketing efforts in which partners earmark a portion of

sales to fund initiatives that create sustainable access to animal protein for children in need. The Six-Second Project specifically seeks partnerships with the meat industry because of the key role animal proteins play in providing essential nutrients that contribute to proper muscle and brain development. Even small amounts of animal protein during the first few years of life can prevent malnutrition and stunted growth.



Photo: A smallholder farmer tends to broilers in Venda, South Africa. Meat industry donors partnered with The Six-Second Project to fund a hen house, layers, and production & business training. The farmers were so successful with egg production, they invested profits in broiler production. They now have sustainable income and nutrient-rich animal protein to feed their children.

The International Meat Secretariat (IMS) is a partner and views working with The Six-Second Project as an opportunity for the global meat industry to harness its expertise in food production and distribution and become recognized for helping find sustainable solutions to global hunger. The IMS is working with The Six-Second Project to identify

sustainable projects and collaborate with the broader industry to find and fund meat and livestock-based hunger solutions. The Six-Second Project has developed print-ready campaign materials and can offer creative campaign ideas to help partners start creating their own impactful Cause Marketing campaigns. Interested partners should visit www.thesixsecondproject.org/corporate-sponsorships for additional information.

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The State of Food Insecurity in the World 2015

1. How much progress has been made in the fight against hunger?

The latest FAO estimates indicate that global hunger reduction continues: about 795 million people are estimated to be chronically undernourished in 2014-16, just over one every nine people, and 216 million fewer than in 1990-92. In the same period, the prevalence of undernourishment has fallen from 18.6 to 10.9 percent globally and from 23.3 to 12.9 percent for the developing countries.

Despite overall progress, marked differences across regions persist. Sub-Saharan Africa has the highest prevalence of undernourishment, with only modest progress in recent years. Around one in four people in the region remains undernourished.

On the contrary, conditions are much more favourable in northern Africa, where several countries show low levels of undernourishment.

Asia, the most populous region in the world, still has the highest number of undernourished. Southern Asia has made slow progress in hunger reduction, while more rapid progress has been achieved in eastern and south-eastern Asia.

Latin America and the Caribbean have recorded very fast progress in reducing hunger, particularly the southern countries of the continent.

2. Why has the global number of hungry come down?

The lower global prevalence of undernourishment (PoU) reported in SOFI 2015 reflects higher estimates of food consumption levels in some key countries and regions. Increases in the amounts of basic food such as cereals, oilseeds, meats, sugar and dairy products available for human consumption were observed in the recent past in a number of major producer and consumer countries.

In some countries a lower PoU is also the result of reduced inequality in food access among the population. Updated information from recent national

household budget surveys allowed one of the parameters used in estimating the PoU, i.e. the coefficient of variation, to be revised downwards.

As countries continue to produce new and better data for food production, trade and consumption, the estimates are regularly updated, as has always been done. For this reason, estimates over time are revised backwards for each new edition of the SOFI report. Therefore, the estimates over time should not be compared across editions, but only within the same edition.

3. The developing regions as a whole have almost reached the Millennium Development Goal 1c hunger target, while the World Food Summit goal has been missed by a large margin. What are the differences among regions in progress towards the international hunger targets?

Achievement of the MDG 1c hunger target requires a reduction of the proportion of undernourished people in the total population by at least 50 percent between 1990 and 2015. This target has almost been achieved in the developing regions as a whole. The estimated reduction in the PoU in 2014-16 is less than one percentage point away from the level required to have achieved the target. The PoU in the developing regions stands at 12.9 percent in 2014-16 - i.e. 0.8 percentage points above the MDG 1c target of 12.1 percent. Given this small difference, and allowing for a margin of reliability of the background data used to estimate undernourishment, the target can be considered as having been achieved.

The World Food Summit (WFS) goal, which requires halving the number of undernourished people by 2015, was not achieved. Meeting the goal would have required bringing this number down to 515 million, that is, some 265 million less than the 795 million estimated in 2014-16. Given that the world population has grown by 1.9 billion since 1990-92, this goal should be considered rather ambitious. Among the developing regions, Latin America and the eastern and south-

eastern regions of Asia have all achieved both the MDG 1c hunger target and the more ambitious WFS goal. The MDG 1c target has been reached in the Caucasus and Central Asia and in the northern and western regions of Africa. Progress has also been recorded in the Caribbean, Oceania, southern Asia, and southern and eastern Africa, but at too slow a pace to reach the MDG 1c target. Finally, Central Africa and western Asia are moving away from the hunger targets, with a higher proportion of undernourished in the population now than in 1990-92.

4. Which countries have made the biggest progress in hunger reduction?

Since 1990-92, 72 developing countries have achieved the MDG 1c hunger target. Of these, 29 have also achieved the more stringent WFS goal. Of the 72 developing countries that have achieved the MDG 1c target, 12 have maintained the prevalence of undernourishment close to or below 5 percent since 1990-92.

The fastest progress was recorded in Latin America, owing to the hunger reduction in Brazil, Chile, Guyana, Nicaragua, Peru, Uruguay and the Bolivarian Republic of Venezuela. Among Asian countries, fast progress was recorded in Armenia, Azerbaijan, China, Georgia, Kyrgyzstan, Kuwait, Myanmar, Oman, Thailand, Turkmenistan and Viet Nam, which have reached both the WFS and the MDG 1c targets. Some African countries also made considerable progress; examples include Angola, Cameroon, Djibouti, Gabon, Ghana, Mali and Sao Tome and Principe. These countries have halved both the number of undernourished people and the prevalence of undernourishment since 1990-92.

5. Which countries have made the least progress in hunger reduction?

Very slow progress was recorded in some countries of sub-Saharan Africa, including the Central African Republic, Cote d'Ivoire, Liberia, Madagascar, Namibia, Senegal, Swaziland, Uganda, United Republic of Tanzania and Zambia. In Asia, the Democratic Republic of Korea,

Iraq and Tajikistan saw an increase in the number of undernourished people. In Latin America, an increase in the number of undernourished is reported for Guatemala, despite the good results of the region as a whole.

6. Based on previous SOFI reports, FAO has recognized countries that had reached the MDG 1c hunger target and the WFS goal. Are these results confirmed by the 2015 figures?

The results are confirmed for the countries recognized in the past few years. However, some changes in the point estimates are possible, especially for the most recent periods. These most recent estimates inevitably rely on short-term projections, which are subject to reassessments based on market intelligence and additional information that has become available.

7. Why does FAO monitor undernourishment only in countries from the developing regions?

The MDGs from 1 to 7 are meant to be assessed only for countries in the developing regions; only MDG 8 applies also to countries in the developed regions. For the developed countries, FAO only conducts a global assessment, without country-level details.

8. Has FAO changed its methodology for computing the prevalence of undernourishment this year compared to that used for previous editions of SOFI?

The methodology for estimating undernourishment has not changed from that used last year. The latest refinements in the estimation procedure were introduced in 2014. These involved the methodology for computing coefficients of variation from household surveys and from other sources where reliable national household surveys are not available. As in the previous editions of SOFI, the methodology for estimating undernourishment is presented in Annex 2 of the report.

9. Why is FAO estimating the prevalence of undernourishment up to 2014-16? How can we have information for 2016?

The most recent estimates included in SOFI are always based on projected data. The choice to project the three-year average 2014-16 in SOFI 2015 arises from the need to maintain consistency with previous assessments of undernourishment. The

monitoring of progress towards the MDG 1c and WFS hunger targets was started by FAO at the end of 1990s, assuming the three-year period 1990-92 as a starting point. Both targets are to be reached by the end of 2015. Hence, progress had to be assessed up to a three-year average period centred on 2015, that is, up to 2014--16.

The estimates of undernourishment for 2014-16 are based on projected data for the dietary energy consumption (DEC). As explained in Annex 2 of SOFI, the latest available data from food balance sheets refer to 2013 for most countries, while for other countries data are available only until 2011. Therefore, additional sources were needed to estimate the three-year DEC up to 2014-16. The main source of missing data for 2012, 2013 and 2014 are the food consumption estimates from the short-term market outlook prepared by the FAO Trade and Markets Division. These estimates have been used to prorate the food balance sheet data to arrive at forecasts for 2012, 2013 and 2014. As a consequence, projections were needed for the last two years.

A distributed lag model has been used to project the DEC for 2015 and 2016. This model attributes higher weights to more recent data and progressively less weight to older observations. Where this model did not produce plausible results, simpler forecasting methods have been used, such as the linear or exponential trend extrapolations.

10. SOFI 2015 indicates that certain countries and regions (e.g. Latin American and the Caribbean, Guyana, Suriname) have reached the World Food Summit goal or the MDG 1c hunger target. But the percentage reduction of the number of the prevalence of undernourishment is only 48 percent rather than the required 50 percent. Why?

Achievement of the MDGs is meant to be assessed over a 25-year period, from 1990 to 2015, while observations for the prevalence of undernourishment are only available for the 24-year period from 1990-92 to 2014-16. This is a consequence of the choice to start the monitoring of progress towards the MDG 1c and WFS hunger targets from 1990-92. To address this potential inconsistency, the



**Food and Agriculture
Organization of the
United Nations**

50 percentage reduction in the PoU and the number of undernourished required for achieving the targets had to be adjusted by a factor of 24/25. In practice, this means that a cut-off point of 48 percent has been used.

11. The main indicator on which SOFI is based the prevalence of undernourishment- has been criticized for being based on a narrow definition of hunger, covering only chronically inadequate dietary energy. What has been done to respond to this criticism?

The prevalence of undernourishment is designed to capture a more circumscribed concept of food insecurity, namely a state of dietary energy deprivation lasting over one year. This report addresses this limitation by also presenting and discussing measures of different dimensions of food security, through a new suite of food security indicators. The suite comprises numerous indicators that reflect elements of a broader concept of food insecurity and hunger.

FAO has continued to maintain and enrich the suite of indicators introduced in the 2013 edition of the report, to better capture different dimensions of food security and nutrition.

12. Would it not make more sense to use household surveys that allow for direct and more accurate measurement of undernourishment, instead of the complex system on which the prevalence of undernourishment is based?

Ideally, the adequacy of dietary energy intake, and thus the condition of being undernourished, should be assessed at the individual level, by comparing individual energy requirements with individual energy intake. This would allow the prevalence of undernourishment to be estimated by counting the number of people classified as undernourished.

However, such a "head count" approach is not feasible for two reasons. First, individual energy requirements are



practically unobservable with standard data collection methods. Second, individual food consumption is influenced by disparities in intra-household food allocation, the variability of individual energy requirements, and the day-to-day variation in food consumption for reasons other than food insecurity (including different workloads or lifestyles, or cultural and religious habits).

Moreover, the cost of implementing household surveys capable of properly estimating undernourishment in the vast majority of countries monitored by FAO on a yearly basis would be very high. At a minimum, these surveys would need to capture food consumption at the individual level and obtain sufficient information to assess habitual consumption levels. They would also need to secure information on the anthropometric characteristics and activity levels of each surveyed individual, to estimate the relevant individual energy requirement threshold. Such data requirements imply that specific surveys – different from, and much more expensive than, existing household surveys – would be needed for this purpose. In contrast, the PoU methodology allows information from household surveys to be integrated with macro data sources, such as food balances, censuses and demographic surveys.

13. What is the minimum dietary energy requirement and how does FAO compute it?

The minimum dietary energy requirement (MDER) is a country-specific normative threshold that FAO employs as a cut-off point to estimate the prevalence of undernourishment. The MDER is a standard energy requirement, specific for age classes and sex, derived from a joint FAO/WHO/United Nations University expert consultation held in 2001. These standards are obtained by calculating, with reference to each age class and sex, the needs for basic metabolism – that is, the energy expended by the human body in a state of rest – and multiplying them by a factor that takes into account physical activity, referred to as the physical activity level (PAL) index. The FAO methodology uses an age- and sex-weighted average standard energy requirement as a national-level MDER.

14. Why does the prevalence of undernourishment indicator underestimate undernourishment by assuming a minimal level of physical activity, when, in fact, many poor people are engaged in demanding physical activities?

As it is practically impossible to implement the head count approach, FAO developed the PoU estimate for the population as a whole, summarized by the statistical device of a “representative” individual. As body weight, metabolic efficiency and physical activity levels vary in any population, there is a range of values for energy requirements compatible with healthy status. Hence, only values below the minimum of such a range can be associated with undernourishment in a probabilistic sense. Thus, for the PoU to indicate that a randomly selected individual in a population is undernourished, the appropriate threshold must be set at the lower end of the range of normal energy requirements.

15. What is the relationship between hunger and undernutrition?

In many of our case studies, we find that although there has been significant progress in fighting undernourishment, there have been no improvements in nutritional outcomes, as measured, for instance by the proportion of children who are stunted or underweight. This means that, although people may have stable access to sufficient food for their energy needs, this food is not always of sufficient quality to provide all the necessary vitamins and other nutrients, or that some people are too ill to utilize the nutrients they consume.

There are many reasons why undernutrition may occur. Lack of dietary diversity can result in undernutrition, especially where diets are poor in micronutrient-rich foods such as meat, fish and dairy products. Poor access to safe water and sanitation – both crucial for mitigating the risk of disease – can inhibit efficient food utilization. Poor education and lack of access to ante-natal and child-care facilities are also important.

In many situations, nutritional supplements may be needed to improve the nutritional status of the population in the short term. A range of food security and other nutrition-enhancing interventions in agriculture, health, hygiene, water supply

and education, particularly targeting women, are necessary in the medium and longer term.

16. SOFI 2015 takes stock of uneven progress towards international hunger targets and especially the MDG 1c of halving the proportion of people that are undernourished. Why did you decide to focus on this issue?

The year 2015 marks the end of the MDG monitoring period – about half a year remains before the deadline for achieving most of the MDG targets. It is important to examine not only the progress towards hunger reduction, but also the factors that shape this progress, which give rise to wide differences across regions and countries. SOFI identifies remaining problems and provides guidance on which policies should be emphasized in the future.

17. What are these factors and why does SOFI single them out for analysis?

A number of factors shape progress towards food security and nutrition goals. Economic growth, agricultural productivity growth, markets (including international trade) and social protection can all determine the pace of hunger reduction. Protracted crisis situations also have detrimental effects on food security and malnutrition. This list is by no means exhaustive, but provides a good picture of what influences progress in the fight against hunger.

18. SOFI mentions the economic growth is necessary for hunger reduction. What is the relationship?

Economic growth is necessary for alleviating poverty and reducing hunger and malnutrition – countries that become richer are less susceptible to food insecurity. But it is not sufficient – the relationship between economic growth and hunger is complex.

Looking at the numbers during the last 25 years, one can see that the rate of poverty alleviation has been faster than that of hunger reduction. This is because the hungry are the poorest of the poor with no assets, no or little education and skills and are often characterized by ill health. Very poor people cannot participate in growth processes that require capital or generate employment for the educated and skilled. For example, economic growth generated by exploitation of resources, such as

minerals and oil, is likely to have very weak direct linkages to the poor – it requires capital and skills that the extremely poor do not have.

What matters for effectively improving food security is inclusive growth: economic growth that reaches those in extreme poverty.

19. Are there any ways to promote inclusive growth?

Agriculture is a sector that can significantly contribute to inclusive growth – especially family farming and smallholder agriculture. Approximately three-quarters of the world's poor live in rural areas, with the share even higher in low-income countries. And agricultural growth in these countries is three times as effective in reducing extreme poverty compared to growth in other sectors.

Social protection is also key for inclusive growth. It can establish a virtuous circle of progress involving the poor, with increased incomes, employment and wages.

20. SOFI mentions that family farming and smallholder agriculture are crucial in the fight against hunger

More than 90 percent of the 570 million farms worldwide are managed by an individual or a family, relying predominately on family labour. These farms produce more than 80 percent of the world's food, in terms of value. Their role in fighting hunger is key. Increasing smallholder productivity improves access to food and incomes. It raises the demand for labour in rural areas, generating jobs for the poor and raising the unskilled labour wage rate. In this way, household members can diversify their income sources by obtaining better-paid off-farm work. A good example is Ghana, where good policies and investments in agricultural productivity have resulted in significant hunger reduction.

21. What is the role of social protection?

In recent decades we have seen a significant increase in social protection in terms of coverage. Today, every country in the world has at least one social safety net programme in place. School-feeding programmes – the most widespread type

of social protection programme – are implemented in 130 countries.

Social protection directly contributes to poverty alleviation and hunger reduction but it is also crucial for promoting inclusive growth. Cash transfers to poor farmers, in particular women, who have no access to financial services for investments, can influence their productive capacity. They can often be saved and/or invested in productive assets and can improve social inclusion for even greater returns over the participants' lifetimes. Other social transfer programmes, combined with additional interventions in the areas of drinking water supply, health and/or education enhance nutritional outcomes and promote human capital.

22. What is the role of markets and trade?

Markets that function well are important for promoting food security and nutrition. Markets facilitate the flow of food from surplus to deficit areas, and ensure food availability. They also transmit price signals to farmers to adjust their production and input use. Improving access to marketing opportunities can also help boost productivity.

Trade also delivers benefits at the international level, but there are also underlying risks. For example, freer trade boosts imports and increases both the quantity and variety of available food. In one country, greater competition from abroad may trigger improvements in productivity through greater investment, but in another country cheaper imports could have disastrous impacts on domestic farmers and workers, with job losses and reduced incomes. The linkages between food security and international trade are complex and context-specific and the opportunities and risks should be carefully assessed.

23. Why it is difficult to make progress in protracted crises and what should be done?

Countries and territories in protracted crisis are those considered as situations with recurrent human-made and natural hazards, longevity of food crises, breakdown of livelihoods and insufficient governance and institutional capacity to

deal with the crisis.¹ The combination of multiple contributing factors and the changing typology of these crises – from catastrophic, short-term, highly visible events to more structural, longer-term and protracted situations – have resulted in severe impacts on the food security and nutrition status of vulnerable people which is significantly worse in these contexts than in other developing countries.



The approximate combined population in protracted crisis situations in 2012 was 366 million people, of whom approximately 129 million were undernourished between 2010 and 2012 (including conservative estimates for countries lacking data). This accounted for approximately 19 percent of the global total of food-insecure people, or approximately 41 percent of the total if India and China are factored out. In 2012, the mean prevalence of undernourishment in protracted crisis situations was 39 percent, compared with 15 percent, on average, in the rest of the developing world.

Addressing food insecurity and malnutrition in protracted crises is particularly challenging. With ongoing and fundamental threats to both lives and livelihoods, protracted crises call for specially designed and targeted assistance. Strong political commitment is necessary to address the underlying causes of protracted crises and action should focus on addressing vulnerability, respecting basic human rights and integrating humanitarian and development assistance.

Successful interventions for addressing food security and nutrition issues in protracted crisis situations are often seen to be more about preventive actions than responses to the impacts of recurrent crises. Comprehensive country-owned processes (e.g. safety nets) and innovative funding mechanisms are needed to enable a more integrated, agile and flexible approach that can reduce the erosion of development gains in times of crisis while responding to immediate needs.

www.fao.org/hunger/en/

¹ The three measurable criteria for identifying countries in protracted crisis in SOFI 2010 were (i) longevity of crisis: at least 8 of the past 10 years on the GIEWS list; (ii) aid flow: at least 10% of total official development assistance in the form of humanitarian assistance (between 2000-10); and (iii) economic and food security status: LIFDC status.

Food of Today, Food of the Future

From the present which combines nutrition with pleasure to the priorities of a future wellness, from the conviviality of today's tradition to technology that will not necessarily be the salvation of tomorrow. Evolution is what Coop's research, designed by Doxa, is tracking, by comparing the citizens of 8 countries throughout the world: Italy, Germany, The United Kingdom, The United States, Russia, China, India and Brazil.

What will be on tomorrow's plates? We will find GMOs (72% of those surveyed are fully aware of their spreading), pills (75%) and in-vitro meat (60%), there will be insects and algae or in any case foods with balanced nutritional properties. The most eclectic and open to taste changes are the Indians, the Chinese and the Brazilians, but 70% of Italians would also try food in pills and 44% of our fellow countrymen would not back away in front of an insect. Despite this, the fear of possible food manipulation still prevails (60%) in addition to the fear of an increasingly less controllable planet or one on the edge of an environmental disaster (53%). 43% indicate rising food costs as their biggest fear.

Food of today, food of the future. The research on the tables of 8 countries around the world and the expectations for the year 2050 was carried out by Coop, Expo's theme partner with its Future Food District, and was handled by Doxa (6,400 interviews made to people between the ages of 18 and 54 years). The result was a considerable variety of different food cultures present in the different countries, linked as they are

to particular styles and awareness (Italians are masters in perceiving food

as pleasure combined with a taste of conviviality and a hint of tradition).

By moving from the present to the future, strong and unpredictable responses can be noticed.

2015, the present

Almost half of those interviewed (precisely 45%) stated they are on the road to globalization but are at the same time characterized by their own food styles. This is the first macroscopic figure. The very different approaches to food start from the preparation of the meal, to which an average of 1.3 hours per day

are dedicated, with countries like Brazil, India and Russia spending more time. Italians are no different and in this stand apart from their European neighbors; like them, they are less attracted by take away food and by eating outside their home. The vocation for 'home made' food is somehow justified by the versatility of the Italian diet, similar to that of China and India in using a variety of carbohydrates, fruit and vegetables. Meat consumption is naturally more concentrated in English-speaking countries, but also in China and Brazil.

On the other hand, alternative and somehow transnational eating habits also emerged. Foodies (typical quality food) account for 13% but high in the ranking are also low-calorie diet foods (10%), health foods (10%), vegan (8%) and biological foods (8%). Only a small part of the planet seems reluctant to contamination, and only 22% of the sample declared never eating ethnic food and almost one-fourth declared they eat it often. 90% of Germans and British declared they often or sometimes eat ethnic food, the most diffident being Brazilians and Italians. It is inevitable that, in spite of some



common features, and depending on the latitude, various differences arise: India tops them all and 84% of its citizens have admitted following particular food habits. 31% admitted being affected by the country's influence and 21% are conditioned by religion, which is where the vegetarian or vegan following is

so rooted that it represents 35% of those surveyed. Brazil also exceeds the average with 51% of its citizens devoted to certain eating habits (here tradition and regionalism dominate), while the Chinese and Germans admitted being more reductarians (those who reduce the quantity of meat) than average, while 14% of Russians follow health-conscious diets and though a minority, 8% of the United Kingdom population are vegetarians or vegans. From being vegan to eating vegan there is a clear discrepancy: 8% of those surveyed declared being vegan, while a much larger figure, 20%, declared buying vegan products. The same difference can be seen for organic (33%) and ethical foods (17%).

Certainly different is the significance that different national cultures look for in food. English-speaking countries show a rational conception of food as nourishment and well-being, while health is the element of greater significance for the Chinese, Indians and Brazilians. The Germans balance nourishment and pleasure. And Italians rate food as pleasure combined with a taste of conviviality and a touch of tradition.

2050, the future

When asked how the Planet's future will be, optimism prevailed: 15% of those interviewed stated the situation could definitely improve and 32% more cautiously confirmed the improvement response, while 7% declared they hopelessly are pessimistic. Not everyone shared the same opinion and Countries with a current more favorable situation and rising economies and societies see the future with more optimism: China (84% of positive responses regarding the future) and India 74%. Definitely more cautious were the European communities. Italians were those who saw the glass half empty more than any others: total pessimistic responses accounted for 12%, followed by 9% for Germans and British.

All were aware of the change that lies ahead concerning food: only 2% stated they see no changes in the future, 46% believed it will be very different, 18% radically different and the remaining part (nearly 34%) see even a partial change. Such awareness was shared throughout the world. What will make the future food different and which are the expected changes? Two fundamental aspects are involved: the very half of the sample considered new technology as the element that will truly make a change (mainly Russians and Chinese, but the data was shared by all). The



world is also however going green: 42% indicated climate change as the main cause of change and 34% more precisely indicated pollution and the availability of natural resources as the main cause. Lastly, 30% mentioned the world population increase and a lower food availability as a consequence.

These elements of change were perceived by those interviewed as significantly impacting food's healthiness above all (64%), its quality and safety (62%), the same types of foods (60%). Expecting these important changes led to fearing food manipulation (60%) and the effects produced by environmental pollution (53%). In some countries, fears contrarily prevailed of increases in food costs (US 57%, Brazil 61%), of having less democratic foods only accessible to just a few, and of risking future food shortages (Brazil 63%). 72% of those interviewed stated they were fully aware of GMOs increased spreading.

Consumers interviewed globally did not expect a reduction in the quantities of food consumed (only the UK and Germany did expect a reduction in the frequency of meat consumption), while diets seemed to choose a greater variety with an increased consumption of carbohydrates, fruit and vegetables.

The food of tomorrow will be manipulated by technology, it will certainly be practical and fast, and nutritionally balanced; global eating habits will spread. Consumers unexpectedly showed to be open

to changes in this regard, in all the national contexts. 80% of those interviewed said they would be willing to eat algae, 75% would accept lab-created food. Moreover, more than half of those interviewed stated they are willing to eat in-vitro meat and insects: Indians, Chinese and Brazilians were the most eclectic and willing to change: 70% of the Italians would be available to try food pills and 44% of the Italians would also eat an insect.

When asked to imagine a future supermarket, those interviewed described something similar to the one Coop created in the Future Food District, at least partly. 42% admitted to preferring freshness and healthiness and expected to find small greenhouses and breeding farms along the aisles; 37% would like to learn products' histories, 30% would like products to be in their likeness. 16% would like to be assisted by a robot during their shopping experience.

The statements

"We are satisfied with the data collected -stated Marco Pedroni, President of Coop Italia- since they confirm that in imagining 2050 with our design of the Supermarket of the Future at Expo, also supported by Carlo Ratti, we devised a structure that is in line with consumers' expectations for the future. In the first 20 days of the fair, consumers' appreciation was also demonstrated by the daily number of visitors which exceeded 10,000 per day. We are convinced and aware that Coop's

role and its ability of guaranteeing access to quality food at reduced prices is a message that holds true for today and will hold true even more for tomorrow, based on the fears that the global community indicated in our research".

"There is still a lot that Coop can do based on this data -confirmed Stefano Bassi President of Ancc Coop. However, we believe we have what it takes to meet the expectations of an ever changing world: Coop's diktat is to offer ethical food that is sustainable and sold at a fair price. In presenting our research, designed by Doxa, we want to face the existing challenge. Is Expo only a showcase? We are committed to display our contents and values. We have given voice to citizens across the world, who are the Planet's protagonists".

Coop is the leading brand in modern trade in Italy (with a market share of 18.4%, turnover of over 12 bln euros, 1200 stores and over 52,000 employees) and is an all-Italian leader, widely present across the territory, in the North as in the South, within a scenario that is increasingly rich in foreign competitors (currently equal to 45% of the grocery market).

Coop is also a network of enterprises that belongs to over 8 mln and 400,000 members, with a 3.1% growth percentage compared to 2013. Consumer Cooperatives succeeded in creating a solid and widespread network in Italy, capable of combining market logics with social responsibility.

www.e-coop.it

Solar Advanced Systems install 250kW Solar PV System for Meat Processing Farm



More and more organisations in the Food and Agricultural industry are recognizing the benefits of solar power to generate free electricity for use onsite.

As one of Britain's leading meat processing farms, Blixes Farm uses extremely high amounts of energy to keep its cold storage units and chillers at their optimum temperature. With the ever increasing cost of energy and the constant pressure to keep meat prices competitive, Blixes Farm approached Solar Advanced Systems to look at ways of mitigating these costs whilst improving its green credentials.

Although the Feed-in Tariff (FiT) payments have been cut dramatically since the government introduced it back in 2010, the cost of installing solar PV systems has also had a significant fall. Therefore, installing photovoltaic's continues to provide impressive returns on the investment and protect the business against the future rising energy costs.

Solar Advanced Systems (a multi award winning designer, installer and funder of solar systems) carried out detailed site surveys to ensure that the proposed system were the most efficient they could be for Blixes Farm and would maximize system output.

After assessing the farm area, Solar Advanced Systems could see that the available roof area was not suitable

for a solar PV installation. Therefore they suggested a ground mount install as it would accommodate a much larger array of photovoltaic's that would cover their energy consumption spectrum with greater efficiency.

With many acres of land, allocating just one acre to Solar PV saw no problems for Blixes Farm and due to the customer focused design of the system, their farming crops have been left unaffected. Taking advantage of their award winning finance option, RIOS, Blixes Farm installed a 250kW Solar PV system without the need to use their own capital.

Solar Advanced Systems have worked hard in developing their "RIOS" scheme for commercial companies that allows the installation of a maintained and operated Solar PV installation with zero capital investment. The client retains all of the FIT's benefit and will remain cash positive from year one, allowing them to benefit from reduced utility cost and the government backed Feed-In Tariff whilst retaining a flexible exit strategy. The scheme is currently catering for many companies that have high energy demands throughout various industry sectors including Agricultural and Food & Drink.

Blixes Farm has seen a significant reduction in their energy consumption from the national grid and have future-proofed themselves against the forever rising energy prices. They have also made a heavy dent in their carbon footprint saving in excess of 290 tonnes of CO₂ emissions each year.

www.solaradvancedsystems.co.uk



Poultry Farmers Save by Switching to Renewable Heating



UK - Farmers stand to save up to 45 per cent off heating bills by using renewable sources of heating in poultry houses, writes Silvio Spiess, CEO of Innasol.

Within the UK's burgeoning energy industry, the renewable heating sector is swiftly finding its feet as a reliable and affordable energy source for business owners, not least thanks to newly introduced government Renewable Heat Incentive (RHI) scheme.

The benefits of switching to renewable heat are numerous. According to the Renewable Heat Report, switching can cut energy bills by up to 45 per cent.

When we add the RHI financial incentives on top of that, moving over to renewable heat can be very financially beneficial.

Switching has environmental benefits too: as renewable heat uses sustainable sourced wood, it is a carbon neutral energy source which helps to cut the UK's carbon emissions.

Why heating?

As is shown in the Renewable Heat Report, heating constitutes 55 per cent of the average business's energy consumption, and so should be the first port of call when aiming to reduce energy bills.

While the extent may vary, biomass is an obvious choice for those raising poultry.

Poultry farms depend on a large and constant heat source - biomass can easily satisfy this need and furthermore, is particularly well suited to the rural farming sector because of the storage space available which is required both for the boiler and for the wood fuel.

So how does it work?

Those participating in the scheme simply have to install a renewable heating system and in return will receive quarterly payments from Ofgem depending on the system's heating output.

The RHI payments will be paid out for up to 20 years, and the payback period tends to be less than five years, making it a strong investment.

Case studies

One notable example can be taken from a farm in Herefordshire, England. Here, the owner switched to an ETA 90Kw HACK wood chip biomass boiler and as a result saved over £4,100 per year on fuel alone, as well as making more than £10,200 annually in quarterly RHI revenue.

The payback period in this case was only four years and the business owner's total net return was a staggering £600,000. Seeing figures like these, it is obvious why biomass is now in high demand across the farming community.

Renewable heating may be little known compared to the more mainstream renewable energies such as solar and wind energy, but it is gathering momentum quickly thanks to the significant savings that it offers without compromising on quality or convenience. Innasol, responsible for the UK's largest renewable heating network, is leading the pack with its expert partner network of 200.

www.thepoultrysite.com

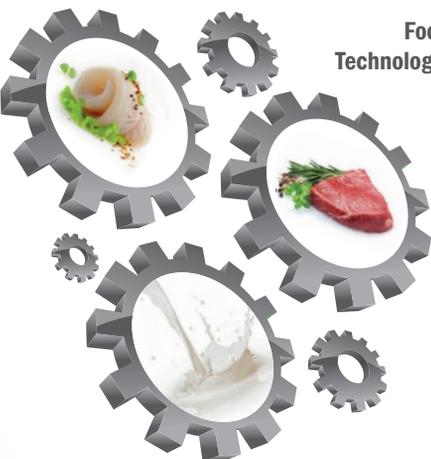
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GLOBALG.A.P. V5: New Rules Published For 150,000 GLOBALG.A.P. Producers



GLOBALG.A.P. has updated its farm and feed standards and regulations to Version 5

The GLOBALG.A.P. Board has announced the introduction of the update to Version 5 of its Integrated Farm Assurance Standard for Crops and Aquaculture. The update follows a four year routine cycle of continuous improvement, and with respect to stakeholder involvement and impact, the current revision has been the most comprehensive amendment to date. It will have a direct and significant effect on all 150,000 producers around the world certified in accordance with GLOBALG.A.P.

The new version is applicable immediately as early update choice in parallel to the current Version 4 and will be mandatory for all new and recertification audits by 1st July 2016. The biggest revision in the history of GLOBALG.A.P. now incorporates the latest research as well as government requirements including compliance with proposed rules by the U.S. Food and Drug Administration as well as EU Food Safety Law. This once again underlines the fact that, although GLOBALG.A.P. is a private standard, it strives to incorporate applicable

public and/or governmental guidelines and responds to new trends and threats in the Fruit & Vegetables, Feedstock and Aquaculture industries. In particular the update also addresses the issue of microbial risks.

GLOBALG.A.P. Board Member Hugh Mowat from Wm Morrison Supermarkets Plc points out: "Food safety has always been a key platform of the GLOBALG.A.P. Standard and GLOBALG.A.P. has undoubtedly made a major contribution toward maintaining consumer safety since its inception in 1996. In the light of ongoing food safety scares resulting from microbial contamination, GLOBALG.A.P. has now been taking a proactive approach to strengthen existing controls. These changes are science-based and will support growers by providing a safe framework within which to grow food, as well as protecting them in the event of an incident."

The update is also based on the roughly 2,000 comments from all continents received during the two public consultation periods. These were then reviewed by technical committees in extensive, time-consuming consultation to assess

applicability and implementability. Ignacio Antequera, Technical Key Accounts, GLOBALG.A.P. explains: "All of this major effort of Revision V5 would not have been possible without tremendous time commitment of all our committee members. For the last 4 years they invested a total of more than 2,600 expert hours. More than 110 organizations were represented in more than 70 days of meetings and webinars. I sincerely wish to thank all the stakeholders for their time and effort they have put in to make this revision a success."

Guy Callebaut, Vice-Chairman of the Board VBT/BelOrta, Grower, and Chairman of GLOBALG.A.P., goes on: "The new Version 5 addresses major risks and trends in addition to food safety, e.g. the sustainable use of water. With this comprehensive revision and our global spread we have strengthened our position as a global reference standard for good agricultural practices. We are also continuing to work against the trend of double standards and to contribute to the harmonization of standards in order to create incentives for farmers around the world to undertake safe and sustainable production."

www.globalgap.org

New Zealand to Stop Animal Antibiotic Use by 2030



NEW ZEALAND - "By 2030 New Zealand will not need antibiotics for the maintenance of animal health and wellness," said New Zealand Veterinary Association (NZVA) President Dr Steve Merchant.

Around 70 percent of human infectious diseases, including meningitis, anthrax and salmonellosis (food poisoning) have come from animals.

"With sharply increasing levels of resistance to antibiotics worldwide, we want animals and, by extension, humans to enter the 'post-antibiotic'

era as safely as possible."

Dr Merchant said this is a significant undertaking, requiring considerable teamwork and commitment from the veterinary profession, working with the medical, scientific, government and relevant primary industry sectors.

He described the prize as "enormous" for New Zealand Inc and the world.

"Given the wide acceptance that the future for antibiotics is limited, and the close links between animals, humans and the environment we share, achieving this goal is essential," Dr Merchant said.

"New Zealand is well suited to this challenge; given our size, proximity of the various specialities and relevant industry sectors, and already low use of antibiotics."

Examples include:

- Zero use of antibiotics in aquaculture
- New Zealand is the world's third lowest user of antibiotics on animals

- Increasing focus on animal 'wellness'
- New Zealand's grass-based farm management systems.

"These represent a sound platform, and veterinarians' role at the intersection of animal life, human life and the environment makes ours a logical profession to be taking a lead," Dr Merchant said.

"Achieving this goal will require a concerted international collaborative effort involving attitudinal and behavioural change across government, research, human health professionals, pharmaceutical companies, and a range of associated industries - as well as the public."

"Veterinarians will use and advocate for careful antibacterial management and monitoring based on responsible use of existing antibiotics, as we work with our industry partners to jointly test and develop the necessary alternatives."

www.thepoultrysite.com

Livestock Sectors to Have Say on Centre of Excellence

UK - The Centre for Innovation Excellence in Livestock (CIEL) is a step closer to becoming reality following confirmation that the bid has reached formal interview stage.

The application to create a world-class centre for livestock science in the UK remains in the process to secure Government funding under the AgriTech strategy, with an independent assessment panel describing it as a strong proposal.

Having got to this stage, potential investors from the beef, dairy, pig,

poultry and sheep sectors are being urged to attend an industry workshop at The Food and Environment Research Agency (Fera) near York on 5 June.

The meeting, which is open to the whole supply chain, from genetics and genomics companies through to retailers, will give industry the opportunity to input into the future of the bid and what CIEL will look like.

"This will be the largest investment in agricultural research infrastructure in the UK for decades, therefore it's essential that the industry is engaged

in making this proposal a success," said Andrew Knowles, head of technical for AHDB's Pork division BPEX (pictured).

Mr Knowles, who is co-ordinating the bid on behalf of the CIEL consortium, added: "CIEL has already received support in principle from more than 80 companies and nearly 30 industry organisations. We're now keen that as many livestock sector representatives as possible attend the workshop on 5 June and help determine the future direction of the proposal."

www.themeatsite.com

Sustainable Intensive Agriculture:



GLOBAL - Sustainable intensive agriculture is key to feeding nine billion by

2050. This was one of the topics discussed by Dr Sean Rickard at a conference held at the Farmers Club, London, organised by ANPARIO plc. Stuart Lumb reports.

Dr Rickard is an economist at Cranfield University and a former adviser for the UK's National Farmers' Union (NFU). Dr Rickard has a reputation for being rather controversial and he put forward some very interesting suggestions in his presentation.

Expert reports have concluded that global food production will need to rise by 70-100 per cent by 2050 in response to a 30 per cent rise in global population and rapidly rising affluence in the developing world.

This assumes that there will not be a

dramatic reduction in meat eating in rich countries nor a curbing of diet aspirations in developing countries, hence more food must be produced to keep food prices affordable. Food poverty is a growing issue in rich countries but for underdeveloped nations malnutrition and famine are growing threats.

Arable yields have to increase dramatically (the FAO estimates that global cereal yields must rise by more than 40 per cent by 2050) using less inputs and this can only be achieved by what Dr Rickard calls "sustainable intensification".

He defines this as a significant increase in the production of livestock, livestock products and crops - accompanied by a reduction in the use of natural resources ie fossil fuels, minerals etc.

Sustainable intensification amounts to a dramatic increase in natural resource productivity achieved by:

- Technical efficiency: capital intensity.

- Technological advance: incremental and drastic innovation

What is needed is a new "Green Revolution" as we had in the 1960s to produce more from less.

Genetic modification technologies are held back, plus cutbacks in research funding in the UK are not helping, consequently Dr Rickard thinks some of the CAP monies should be diverted into research projects.

We are seeing only incremental advances in livestock and crop yields. What's needed is drastic innovation and agro-biotechnological advances.

"These happen every 30 years, so it's about time for the next one". Look how computers and the internet have drastically changed our lives - no one could have foreseen that 30 years ago.

In Dr Rickard's opinion, "there is a romantic image of the countryside - in that it must be kept looking nice and

Sustainable Seafood Global Benchmark



GLOBAL - The Global Sustainable Seafood Initiative (GSSI)'s Expert Working Groups met at the FAO in

Rome from 7-10 July to update the Global Benchmark Tool, before its launch planned for autumn 2015.

GSSI Expert Working Groups on Process, Aquaculture and Fisheries have been drilling down on priority sector issues to further update GSSI's Global Benchmark Tool.

Since 2013 they have come together to exchange knowledge and collaborate on topics shaping the seafood sector's future.

Over four days, 33 international experts from across GSSI's stakeholders, reviewed and assessed over 300 technical comments aimed at improving the latest Tool, which has been widely welcomed. The comments were received during GSSI's latest public consultation, which ran from April to June.

Independent Experts also presented their early findings in Rome from the Tool's pilot phase, which is being carried out with the support of

The Route to Feeding 9 Billion

that production of food is a minor aspect of farming.”

Organic farmers argue that organics are low input - but are also low output. A lower production of cereals could in principle be offset by reduced meat consumption in particular pigs and poultry but it would involve a radical change in western diets and a scaling back of developing nations' aspirations.

Certainly the Chinese would be heartily dissatisfied if their pork and poultry consumption was reduced. The western world wastes a lot of food, commented Dr Rickard, but studies suggest food waste is overstated.

Precision Farming

Precision farming uses technology such as using robots to milk cows and the use of driverless tractors. It also makes maximum use of our resources, whereby fertilisers are applied far more accurately, as are sprays

and water (in the case of irrigated crops), resulting in increased yields, plus precision farming benefits the environment as well. With vegetable production, hydroponics has big potential.

Precision farming involves expensive investment and large farms are needed as they enjoy economies of scale, become more efficient and have the size to generate sufficient profits to make the necessary investments.

Dr Rickard has issues with the CAP as 80 per cent of EU farms need subsidies to stay in profit/business.

The CAP is a social policy and is slowing down change in the EU. In the EU the poultry sector leads agriculture in terms of scale and technological advances, but the poultry industry's supply chain is heavily dependent on the arable sector where progress is slower.

However, the EU poultry sector is a glowing example of efficiency, is not

subsidised and a template for other aspects of agriculture.

Solving the trilemma

Food security: Only a significantly more productive, i.e. intensive, use of the natural resources that underpin farming can deliver the necessary increase in production.

Resource challenge: Farming depends on natural resources and it must use science and precision methods to increase output per unit of natural resources, not only to keep costs under control, but also to deliver a more sustainable industry.

Climate change: Agriculture generates 10 per cent of green house gas emissions and intensive farming not only reduces emissions but can also release less productive land.

To conclude, Dr Rickard stated: "The world will be fed in 2050, but not with the agricultural technology that we have today".

www.thepoultrysite.com

Tool Ready for Autumn 2015

8 seafood certification schemes from 7 countries worldwide.

The pilot is due to end on 31 July and lessons learned from the pilot will be shared in a public Report.

The Tool is now being updated based on the public comments and lessons from the pilot's road-test before going live.

Through its Global Benchmark Tool for seafood certification schemes

GSSI is working towards building confidence in certified seafood. It will contribute to minimizing the overall environmental impact of how we catch, grow and deliver seafood to meet a growing global demand.

Aldin Hilbrands (Director of Aquaculture, IDH), Steering Board Ambassador to the GSSI Expert Working Group on Process, commented: "With a few others, I started the GSSI project back in 2012. The development and growth

of the initiative since then has been extremely encouraging. Bringing together so many experts with their various backgrounds has not always been an easy task. But in Rome I have been able to witness GSSI's true strength: tremendous expertise paired with a strong will to accomplish a common objective in a true spirit of collaboration. It has been a unique experience and demonstrates the collective power of this platform going forward."

www.thefishsite.com

Second Successive Year of Growth for Irish Organic Market

IRELAND - The Irish organic market has recorded year on year growth of 3.1 per cent, according to Kantar's latest figures to end of March 2015.

Eileen Bentley, Entrepreneurship and Prepared Foods Manager at Bord Bia, the Irish Food Board said that the market is now valued at just over €104 million, up from €101 million in 2014.

This is the second successive year of growth for the market, after several periods of decline during the economic recession.

Increases in the volume and frequency of organic purchases, as well as new buyers entering the category, are the key drivers of this growth.

The volume of organic purchases has increased by over nine per cent since 2014, however, the average price per pack has declined by 5.3 per cent across the same period. In terms of the organic market value, vegetables and dairy account for 45 per cent of total share.

Organic fruit and vegetables account for 58 per cent of the total volume share of the Irish organic market, reflecting the impact of the fruit and veg price wars in driving volume increases.

Fruit, eggs, breakfast cereals and vegetables have all achieved year on year value growth in the twelve month period to March 2015.

In terms of organic shoppers, the key segments for organic remain the pre-family and retired/empty nesters/older dependants groups, with Pre-Family being the largest of these groups (23 per cent of all organic shoppers).

Only Tesco and the symbol groups have seen a decline in organic sales (by value) during the twelve months to March 2015, however, Tesco continues to significantly over trade in organic.

Across the total market, private label organic sales have grown faster than branded sales, with only SuperValu recording growth in both branded and private label organic products.

www.themeatsite.com

New Strategy for the Irish Agri Food

IRELAND - Plans for a new ten year strategy for the Irish agri food sector has been announced by government. The new ten year strategy, Food Wise 2025, projects exports to increase to €19 billion and the creation of 23,000 new jobs by 2025.

Food Wise 2025 was officially launched by An Taoiseach, Mr Enda Kenny TD who stated: The Government is rebuilding an economy that is enterprise focused and can support sustainable full employment by 2018. This means growing each enterprise sector across the economy and creating jobs in all four corners of Ireland. Ireland's agri-food industry has led the way in Ireland's recovery. Food Wise 2025 builds on this success by identifying smarter and greener ways to deliver sustainable growth so that it can contribute to our ongoing recovery."

Speaking at the launch, Minister for Agriculture, Food and the Marine, Simon Coveney, said: "Ireland's agri-food industry is on a sustainable journey, one that is connecting local

communities across the island to vast and diverse food markets around the globe. Food Wise 2025 sets out a vision for the industry to continue along this path of sustainable growth and recognises the strategic importance of specific market and consumer insights if emerging global opportunities are to be fully realised in the decade ahead."

Global demand for high quality, safe and nutritious food continues to grow rapidly and there is ever increasing demand in particular in emerging markets in Asia and Africa. The world wants more food but also wants more sophisticated food solutions to match modern lifestyles, different life-stage requirements and to deliver nutritional and health benefits.

Food Wise 2025 predicts that over the next decade Ireland can:

- increase the value of agri food exports by 85 per cent to €19 billion,
- increase value added to the sector by 70 per cent to €13 billion,
- increase the value of primary

production by 65 per cent to €10 billion. This should deliver a further 23,000 jobs in the agri food sector by 2025.

The key messages from Food Wise 2025 are:

-The Irish agri-food sector has been very resilient throughout the recent economic turbulence with significant development within the sector. Food and Drink exports have out-performed other sectors of the economy (45 per cent growth in Irish Ag-food exports compared to 4 per cent for overall merchandise exports 2009-2014 period)

-Food Wise 2025 has new ambitions for the sector for further growth, growth which is sustainable - economically, socially and environmentally

-Food Wise 2025 has harnessed the collective wisdom, experience and knowledge of leading industry stakeholders and sets a course for the industry of smarter greener more sustainable growth over the next decade

-Food Wise 2025 is a statement of

Moroccan Sardines, Mackerel Obtain Friend of the Sea Certification



MOROCCO - Sardines and mackerels from Merveilles des Mers, a leading Moroccan company specialising in canned seafood, have positively undergone audit for sustainable fishery and chain of custody verification.

The certified products can now carry the Friend of the Sea seal of approval.

The sardines and mackerel stocks are not overexploited in the Eastern Central Atlantic area from which Merveilles des Mers is sourcing. Purse seine fishing does not impact the seabed and it is very selective. Fishing gears comply with local regulations, both for net and mesh size.

The fishery respects Marine Protected Areas. All fishing vessel supplying the factory are regularly registered and a fishing authorisation is issued by local maritime authority before and after the fishing trips.

A comprehensive traceability system is in place to guarantee that all Friend of the Sea requirements are fulfilled and that no mixing occurs between certified and not certified origins.

"We share the same sustainability vision of the Friend of the Sea programme," Mr Mustapha Oubarka, General Manager of Merveilles des Mers.

"Friend of the Sea has become a leading standard for sustainable seafood and this recognition provides an important added value for our customers."

www.thefishsite.com

Sector to Improve Exports, Jobs

intent from the industry to capitalise on a host of new growth opportunities arising from the ever-increasing global demand for food and for new and innovative food solutions. Ireland is well placed to meet these demands given our comparative advantage in producing a range of sustainable, safe, nutritious and innovative food products.

"This modern, vibrant industry provides exciting opportunities for educated, innovative and entrepreneurial people to realise their own aspirations and drive the sector towards ambitious new levels of growth and development over the coming decade," added Minister Coveney.

Minister of State Tom Hayes T.D. said: "Food Wise 2025 captures the considerable complexity of the agri food sector and highlights that getting our future priorities right will be fundamental to growing our most valuable indigenous industry including the forestry and horticulture sectors."

Speaking at the launch Minister of

State Ann Phelan TD, commented: "I am particularly heartened by the focus in the report on rural diversification, entrepreneurial development and agri-food and marine tourism. These elements are key to the sustained development of rural communities and I am now looking forward to the implementation phase which will have a positive impact on rural communities right across the country".

With over 350 recommendations, Food Wise 2025 is very detailed. That detail is vital. Food Wise 2025 sets out a comprehensive plan for the development of Ireland's agri-food sector over the next decade. Getting our future priorities right will be fundamental to growing our most valuable indigenous industry. Food Wise 2025 captures the considerable complexity of this sector. It underlines its unique and special position within the Irish economy and illustrates the potential for significant further growth within the sector.

'Local Roots Global Reach' is the key

theme of Food Wise 2025. It is a sector unlike any other given its strategic importance to the Irish economy, its roots in local communities throughout the country and its rapidly increasing global reach.

Sustainability is a major aspect of this report. As part of the Food Wise 2025 process, a draft Environmental Analysis Report (incorporating a Strategic Environmental Assessment and an Appropriate Assessment) has been prepared in parallel and this environmental assessment has been taken into account in drafting Food Wise 2025. The draft Environmental Analysis Report is now available on the Department's website and an eight week public consultation period runs to Friday the 28 August.

Minister Coveney concluded by saying: "I am committed to putting in place a robust implementation process to monitor progress and deliver on the ambitious projections in the report."

www.thepoultrysite.com

POLAGRA - TECH 2015 -

Does Not Only Meet The Expectations Of Food Technology Market,



MEAT AND FISH
TECHNOLOGIES EXHIBITION
FOOD PROCESSING TECHNOLOGIES
EXHIBITION
21.09 - 24.09.2015



... but most of all, the fair makes every effort to set innovative industry trends, not only these technological and technical ones, but also those regarding enterprise development, in cutting edge and determined way.

In Autumn 2015, on 21st to 24th September, Poznań will host the biggest, most customer efficient and undoubtedly attracting huge business interest - International Trade Fair of Food Processing Technologies.

Two exhibitions, hundreds of innovations and countless business contacts

In odd years, POLAGRA - TECH holds two exhibitions: food and meat technology, and what constitutes this year's premiere - also fish technologies. Under Food Processing Technologies Exhibition, Poznań International Fair invites to cooperation these of the companies which in their assortment have machines and devices for all branches of food industry, control and measurement instruments, refrigerating systems, means of transport, hygiene and pest control measures as well as components and additives necessary for production. Meat and Fish Technologies Exhibition however, is a perfect place for presentation of machines and devices, whole production lines for the meat and fish processing sector as well as additives, spices and components.

Broad but precisely indicated thematic scope of the fair ensures that the exhibition halls of Poznań Exhibition Centre are the place for efficient presentation of food technology and enclave for efficient business meetings.

Market leaders are ahead of consumers' expectations

Participation in POLAGRA-TECH trade fair delivers impressive opportunities for a comprehensive and direct presentation of the company's offer to a wide circle of selected, potential customers. Business contacts, perspective of lucrative cooperation, broadening of industry horizons - these are all significant attributes of POLAGRA - TECH trade fair. The list of reasons for participating in POLAGRA is long. The arguments supporting selection of Poznań International Fair offer also include great localisation, organiser's renown, modern infrastructure and many years of experience in winning appropriate visitors. In order for this industry event to be successful, it is important that Poznań's trade fair closely cooperate with industry companies, food sector associations, analyse market trends, listen and make conclusions from economic cycle and situation of companies. What's more, programme for promotion of companies which exhibit on POLAGRA - TECH trade fair and their offer is executed many months prior to the event.

The best never cease to develop

This year POLAGRA - TECH trade fair will be held in unusual market circumstances. On one hand, lasting since last year Russian embargo on Polish food products has undermined Polish food market, but on the other hand, it has created the need to seek other solutions. Experts and the Ministry of Economy opt for expansion onto new markets. This however, certainly involves changes in many enterprises. It is worth also thinking about investments in

processing of agricultural products and pay bigger attention to opportunities set for the food industry by refrigerating industry offer, which will be presented in Poznań, in September, at POLAGRA - TECH trade fair. Timing of the trade fair was chosen for a reason.

This will be in fact the best moment to get to know the innovations on the market and actively start acquire EU subsidies for the development and diversification of company's activity from the EU financial perspective for 2014-2020. In reality, it will be in the second half of the 2015 when the offices will start processes of accepting and examining of applications.

Far - reaching POLAGRA - TECH and vast information scope

Poznań International Fair already today invite the exhibitors to seize the offer which comprises an international character, interactivity and technological advancement of the exhibition. This year, the new perspective is the potential hidden in the fish processing sector. The developed programme of events, conferences and trainings, preparations and conducted talks on arrangement of specialist zones will result in gaining professional visitors.

- This year's programme promises to be increasingly interesting, but most of all, extremely substantively and pragmatically for representatives of the sectors. Time spent on POLAGRA - TECH will results both in good business contacts as well as knowledge and new experience - encourages Joanna Jasińska, director of POLAGRA - TECH trade fair.

POLAGRA - TECH trade fair will be accompanied by Food Industry Packaging Fair PAKFOOD. Food technology and packaging industries closely correspond between one another and organisation of these two events creates a comprehensive event, which supports diversification process and at the same time, optimises costs and time both for exhibitors and visitors. Traditionally, also the following events



will be held simultaneously: International Trade Fair for Food POLAGRA - FOOD, PAKFOOD, International Trade Fair for Gastronomy POLAGRA - GASTRO, which this year together with Hotel Equipment Fair INVEST HOTEL, will deliver a comprehensive offer and set the new reference point for the industry under the slogan "HORECA meets in Poznań".

www.polagra-tech.pl

AGROPROD MASH 2015

Is A Key Business Platform Of Russia's Food Processing Industry

**AGRO
PROD
MASH**

20th INTERNATIONAL EXHIBITION
FOR MACHINERY, EQUIPMENT AND
INGREDIENTS FOR THE FOOD
PROCESSING INDUSTRY

5-9
October 2015

Expocentre Fairgrounds, Moscow

THE FIRST
IN INNOVATIONS

Agroprod mash is the most effective and easiest way for hi-tech processing equipment to enter the Russian market. This year the trade show celebrates its 20th anniversary. The Russian food processing industry still requires updating, and the Russian market still remains receptive and promising for manufacturers of food processing equipment.

The trade show is organized by Expocentre and supported by the Russian Ministry of Industry and Trade by the Ministry of Agriculture. It runs under the auspices of the Russian Chamber of Commerce and Industry. The show carries approved event logos of the Global Association of the Exhibition Industry (UFI) and the Russian Union of Exhibitions and Fairs (RUEF).

According to the Russian National Exhibition Rating, approved by the Russian Chamber of Commerce and Industry and the Russian Union of Exhibitions and Fairs, the Agroprod mash trade show was recognized the best

Russian exhibition in all nominations in the category Food Industry: Equipment and Ingredients. In 2014 Agroprod mash brought together 762 companies from 36 countries of Europe, Asia and America. The exhibition space exceeded 22,000 net sq m. Visitors to the trade show were professionals from over 1,000 cities and towns from all federal districts of Russia and 60 countries.

In the 2014 survey, 77% of exhibitors were satisfied with the quality of business contacts and results from exhibiting and 79% of exhibitors confirmed their participation in Agroprod mash next year.

One of the key and largest salons has traditionally been Equipment for Meat, Poultry, Fish and Seafood Processing Salon. In 2014 this salon occupied about 9,000 sq m and united about 190 market leaders from 21 countries, among them Austria, Belarus, Belgium, Canada, China, Denmark, France, Germany, Ireland, Italy, Japan, Latvia, the Netherlands, Poland, Russia, Spain, Sweden, Turkey, UK, USA, etc.

Over recent years suppliers and manufacturers of slaughtering and primary processing equipment have become more active. It is stipulated by a rapid growth of this segment in Russia. One of the most promising sections is devoted to poultry breeding and processing equipment, which has been greatly developed at Agroprod mash. It concerns not only traditional chicken, but also turkey, duck, and fowl. Demand for them keeps steadily growing in Russia.

Regular participation of Russian and foreign largest companies and integrating firms, which showcase full-cycle equipment for meat processing, components, packaging materials, and advanced technologies, testifies to the salon sustainable development.

The 20th Agroprod mash International Exhibition for Machinery, Equipment and Ingredients for the Food Processing Industry will run on 5-9 October 2015 at Expocentre Fairgrounds in Moscow.

www.agroprod mash-expo.ru



IFFA 2016:

The leading trade fair for the meat-processing industry to open its doors again in a year

Registrations received from all market and technology leaders

Over 80 percent of exhibition space already booked

IFFA, the No. 1 for the meat-processing industry, will open its doors in Frankfurt am Main in a year's time, from 7 to 12 May 2016. The sector is demonstrating a strong commitment to its leading trade fair: all market and technology leaders have registered to take part and over 80 percent of the exhibition space has already been booked.

Held every three years, IFFA brings together all players from the international meat-processing sector. It is the most important innovation platform for the sector and the only trade fair to focus exclusively on meat processing. IFFA covers the entire production chain, from slaughtering and dismembering, via processing, to packaging and sales. Manufacturers from home and abroad develop their innovations with IFFA in mind and present them for the first time to the audience of trade visitors at the fair. IFFA is a must for the meat-processing industry, the trade and artisans.

The last edition of IFFA in 2013 confirmed the leading position of the fair: 960 companies from 47 countries presented

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their latest products and innovations to an audience of 60,266 trade visitors from 142 countries on 110,000 square metres of exhibition space in seven halls. IFFA also achieved outstanding results in terms of both exhibitor and visitor internationality. No less than 61 percent of visitors came from outside Germany and the proportion was almost as high on the exhibitor side: 57 percent of companies were based abroad. Messe Frankfurt anticipates similar figures for 2016.

After Germany, the top visitor nations were the Russian Federation, Italy, the Netherlands, Spain, Poland, Austria, the USA, Switzerland and China. The biggest exhibitor contingents came

from Italy, the Netherlands, Spain, the USA, France, Denmark, Austria, Great Britain, China and Poland.

The restructured and enlarged hall layout introduced at IFFA 2013, which incorporated the new Hall 11 for the first time, was a great success. This arrangement will be retained for the coming IFFA so the complete spectrum of machinery and plant will be on show in the western section of Frankfurt Fair and Exhibition Centre, in Halls 8, 9 and 11. Ingredients, spices, additives and 'Sales - everything for butchers' shops' will be located in the eastern section, in Hall 4.

www.iffa.com.



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