

Food & Drink

NOVEMBER 2013

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TECHNOLOGY

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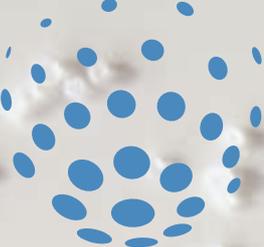


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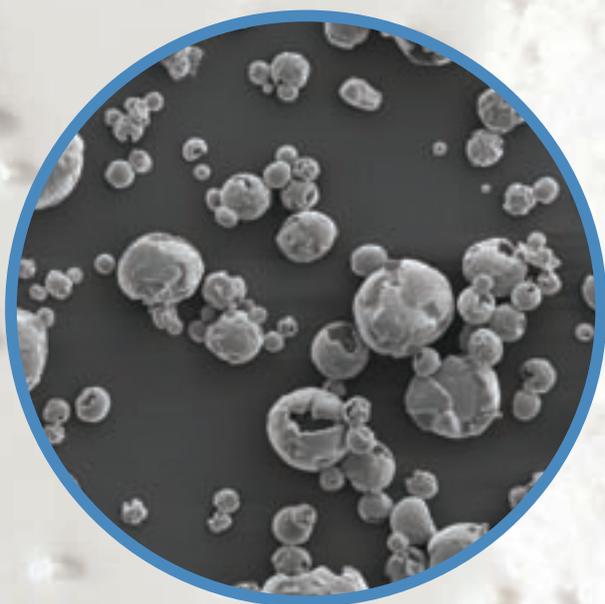
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Back on track

When I took charge of *Food & Drink Technology* back in the summer, one of the most evident challenges facing the industry related to new talent – and specifically, the difficulties in enticing students to assume a career in the food technology sector.

The UK government, whilst doing its best to help overcome the problem, only ever got so far – and even industry figureheads I spoke to were at a loss on the best ways to advance.

But fast forward just a few months, and progress is visibly being made, reflected by two stories in this month's news section that highlight trainees and students who are pursuing varying roles within the food sector; one, the winner of The Society of Food Hygiene & Technology's student

awards prize; the other, a young individual who has recently been named as a food skills ambassador. Let's hope enterprising individuals and stories such as these become an increasingly regular occurrence.

This month's cover story hones in on the healthier snacking trend that is continuing to develop, and the full story within our functional ingredients feature on pages 28-29 details exactly how food and drink manufacturers can take advantage of new ingredients to help formulate these healthier snacks – whether they are cereal bars, crackers, or confectionery.

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Food specification software

Sun Branding Solutions has acquired food specification software business, FoodSpecifications.com, a tool that collects, manages and distributes product information such as specification details, nutritional data and packaging information.

The software is offered as a cloud-based subscription model, with information housed in the software available over the web 24 hours a day. A key strength of FoodSpecifications.com is its ability to delegate responsibilities – a delegation capability that extends through multiple tiers in the supply chain for both raw materials and packaging, enabling traceability and speed of communication.

Food skills ambassador announced

Tomi Jones, an award-winning butcher from Llangollen, Wales, has been chosen as the first food skills ambassador for the 'Future Skills... food for thought' campaign.

In his role, he will be featured in the first of a series of short films highlighting the important role skills play in delivering quality long-term careers in the industry.

Over the coming months, the campaign will be looking for a further 24 new recruits highlighting the importance of skills across the entire food and drink supply chain.

The campaign has been organised by the Welsh Food & Drink Skills Project after research found that there exists significant skills gaps across the food and drink supply chain.

Palm oil accreditation

British company BM Trada has become the world's first certification body to be accredited for a sustainable palm oil scheme.

The multi-certification organisation was previously the first to be approved by governing body the RSPO (Roundtable on Sustainable Palm Oil) to offer palm oil supply chain certification.

But the pilot accreditation – overseen by Accreditation Services International (ASI), one of the world's leading accreditation bodies for sus-

tainability standards systems – is said to “take things to the next level” by aligning BM Trada's palm oil chain of custody (CoC) certification scheme with internationally recognised standards.

It also demonstrates that the body's certification competence, impartiality and performance capability is of the “highest possible standards”.

With the majority of British firms having made a voluntary commitments to



sourcing 100% certified sustainable palm oil (CSPO) by 2015, BM Trada states that the new accreditation will provide an important reassurance for manufacturers, suppliers and retailers seeking a reputable organisation to oversee their own CoC implementation.

Best European cheese

Prima Donna maturo – a unique combination of Parmesan and traditional Dutch cheese flavours – recently won the Gold Award in the category 'Best Dutch Cheese' at the Global Cheese Awards. Furthermore, it was also named 'Best European Cheese'.

Prima Donna maturo won over the jury – which included cheese masters of major retailers and culinary specialists – with its extra mature and full-bodied taste. Aged like fine wine until it reaches the pinnacle of its flavour, the

cheese does not age for a set amount of time; rather, until it acquires a specific flavour profile.

Throughout the ageing period, there are three different varieties identified as the pinnacle flavour stages: fino, maturo and forte, with each offering a different taste.

A fourth variety, leggero, contains only 17.5% fat content (30% of the cheese) and features a light, piquant flavor, making it the ideal cheese for health-conscious consumers.

The Global Cheese



Awards has been held in England for 150 years and is one of the most famous cheese competitions.

Each year, approximately 1,000 cheeses are submitted worldwide in 170 different categories.

New biogas plant uses food waste

A new state-of-the-art food waste plant has opened in County Durham, which will serve the North East's need to recycle food waste and create renewable energy.

Emerald Biogas has announced the completion of its new anaerobic digestion (AD) plant, which is the first facility of its type in the region to begin operating.

The £8m facility, based at Newton Aycliffe Industrial Estate, will generate enough energy to power 2,000 homes

each year. The plant was constructed by Entec Biogas using the latest technology to create the technologically advanced facility.

The successful installation of the combined heat and power (CHP) system and other plant equipment has enabled the testing phase to be completed on time, and the plant is now processing food waste and creating energy.

Antony Warren, director of Emerald Biogas, comments, “I am delighted with

the progress made in terms of getting the plant to this stage. It is fantastic to see it up and running. We are now in the position to accept and process unwanted commercial food waste and employ the latest anaerobic digestion technology to create a valued commodity that will be extremely beneficial to the local business and farming community. We are all excited for the positive journey ahead, with expansion a strong possibility.”

Steve's Leaves responds to statistics

Steve's Leaves, a producer of salad leaves, has responded to figures released by Tesco which state that 68% of salad bags are thrown out – 35% of which are by its customers – by reiterating its commitment to producing salads in smaller bags ranging from 50g to 60g, which can all be used in one serving.

Before its launch in 2010, Steve's Leaves undertook an extensive amount of research into the leafy salads industry about portion size to ensure that waste was kept to a minimum.

Dr Steve Rothwell, founder of Steve's Leaves, says, "Food waste is a major prob-

lem for the leafy salads industry, but as a brand, we are committed to reducing food wastage by making sure that our salad bags are suited to our customers' lifestyles and are used in one serving, rather than languishing open in the fridge for days before being thrown in the bin."

Steve's Leaves is a branded range of washed and ready-to-eat bagged leafy salads. The leaves are grown slowly in natural light to ensure the highest quality leaf is achieved.

The leaves are then harvested, washed in spring



water and packed. The leaves are ready to eat straight from the bag and are portioned to minimise waste.

Insignia receives investment boost

Packaging company Insignia Technologies has announced an £865,000 investment led by Equity Gap along with Highland Venture Capital, the Scottish Investment Bank, the University of Strathclyde and a number of private investors.

The funding will enable the Biocity Scotland-based company to complete commercial trials with supermarkets and packaging companies in the US and Europe, ensuring it continues to lead the commercial development of the food labelling market and rapidly accelerate growth.

With an estimated 18 million tonnes of edible food sent to landfill in the UK each year alone, the issue of food waste is constantly in the media and high on the agenda for the general public and governments, as well as food producers and retailers.

Insignia Technologies has developed a smart label that changes colour over time to show how long a packet of food has been open; a concept using smart pigment technology that could provide numerous benefits for shoppers, retailers and food producers.

Jock Millican, who led the deal for Equity Gap, explains, "Equity Gap is investing in Insignia Technologies because of the potential use and markets for its products, the strength of the management team and interest that customers have shown in the technology."

Multihead weigher wins innovation award



a panel of experts and authorities in the agri-food sector.

The Ishida RV range was rewarded for its numerous advancements to an already-established technology that enable the weighers to achieve 15% faster

speeds than previous models, while still delivering the highest levels of accuracy of any multihead weigher with close-to-zero giveaway.

Key features include an improved user interface with an ultra-fast touch screen that ensures quicker and easier set up, while the CCW-RV can also be operated remotely via wireless access with tablets, androids and smart phones.

Enhanced security features include fingerprint verification access.

"We are delighted that the RV Series has received independent recognition for its innovation," comments Marcello Del Villano, Ishida's general sales manager for Southern Europe.

"When we launched these new models earlier this year, we said that the best had got even better and the winning of the Macfrut Oscar demonstrates how we have once again extended the boundaries of multihead weighing."

The Awards were first introduced in 2010, recognising the need to acknowledge and promote initiatives throughout the sector in terms of technical improvements, reductions in costs and consumer satisfaction.

Ishida's latest multihead weigher range, the RV Series, has received an award for innovation from one of the fruit and vegetable industry's leading exhibitions.

The Oscar Macfrut Awards, organised by Macfrut, the international exhibition dedicated to the fruit and vegetable supply chain, celebrate process and product innovation and are judged by

Horse DNA detected in canned beef

The Food Standards Agency (FSA) has been informed that a batch of canned sliced beef that was found to contain horse DNA has been withdrawn from sale. Horse meat is not identified in the ingredients list and therefore it should not have been present in the product.

The canned beef was manufactured in Romania in January 2013 and supplied to Home Bargains (TJ Morris Ltd) and Quality Save stores in the UK. The 320g packs are described on the label as 'Food Hall Sliced Beef in Rich Gravy.'

The presence of horse DNA in the product was identified during routine testing carried out by Lincolnshire County Council trading standards officers. The product was found to contain horse DNA at a level of between 1 and 5%. It also tested negative for the presence of the drug phenylbutazone, known as 'bute'.

The affected batch has been withdrawn from sale. Customers with the product store are being advised to return it to the point of purchase.

'Friend of the Sea' certification

Golden Omega, a Chilean producer of omega-3 concentrates, has obtained Friend of the Sea certification for its products originating from anchovies' fish oil.

Golden Omega's main source of raw material comes from the anchovy fishery of the north of Chile. The main shareholder of Golden Omega, the largest fishing company in Chile and one of the largest worldwide, Corpesca owns 45 fishing vessels fishing in the Southern Pacific and maintains that the anchovy stock in the fishing area is not over-exploited.

The fishing vessels are continuously tracked and



alerted in case of entering Marine Protected Areas. The fleet complies with seasonal closures and in case the average size is lower than minimum, the fishing is momentarily stopped.

The purse seine fishing method is highly selective, as anchovies represent 98% of the catch. Golden Omega was also found fully compliant with Friend of the Sea

social accountability requirements.

"The continuing development of the global fish oil omega-3 markets is creating a need for the industry to demonstrate its commitment to the use of raw materials only coming from responsible fishing activities and sustainable resources," comments Claudio Aracena, commercial director for Golden Omega.

"With this new achievement, Golden Omega is the only producer of omega-3 concentrates in the world, holding three certifications - IFFO RS CoC and FOS - all related to the use of responsible and sustainable fish resources."

Topping-out ceremony for GEA

The GEA Group has reinforced its strategic focus on the food industry via a €10m investment in building works at its Biedenkopf-Wallau production facility.

By demolishing old halls and erecting new buildings, GEA Food Solutions - a supplier of secondary food processing and packaging equipment - is seeking to improve its entire production workflow and focus more intently on its customers.

The construction programme in Biedenkopf-

Wallau - a facility that has been manufacturing meat processing and packaging machines for more than 70 years - encompasses a production area of 6,500m², a prototype laboratory, and customer training and machine presentation facilities, all of which have been built in compliance with contemporary standards.

A new canteen, separate staff rooms and additional offices are also being provided, and special attention has been paid to health and safety as well as efficiency.

Managing director Bernd Klinkert comments, "The new building complex will accommodate modern customer support facilities and give us a much better infrastructure.

"We will be able to occupy an even more professional position in the eyes of our customers."

Inaugurated in April 2013, the initial construction phase is scheduled for completion by the end of the year, with the overall building programme expected to be finished by Spring 2015.

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Kerry opens in Dubai

Kerry Group, a global ingredients and flavours and consumer foods group, has opened a new regional development and application centre in Dubai, UAE.

The move is intended to serve Kerry's global and regional customer base in the Middle East, North Africa and Turkey. Working closely with Kerry's global technology and innovation centre for EMEA markets, which is currently under construction in Ireland, the new regional development and application centre in Dubai will support the day-to-day development needs of Kerry customers across developing markets.

Speaking at the official opening ceremony, Gerry Behan, president and CEO of Kerry Ingredients & Flavours, said, "The Kerry investment in the Dubai based centre is testament to the group's determination to service customer requirements in this important developing region. Here, we will align our Kerry taste and nutritional offerings with local market trends and consumer demand – working in conjunction with our global centre to drive innovation across the beverage, dairy, meat, snack, confectionery and bakery industries.

"This centre will support our global customers who are expanding their footprint in the region, whilst bringing the benefits of our global technologies to local food and beverage producers – supporting indigenous industry development," he added. "The centre will allow our commercial teams to better collaborate with customers in the region, and we are confident that it will be a key differentiator in meeting the product development needs of our customers."

Trainee wins top student prize

A former chef who had so many unanswered questions about the nature of food that he became a food scientist has won top prize in the Society of Food Hygiene and Technology (SOFHT) Student Awards with his dissertation on managing food safety threat Campylobacter.

Daniel Walker entered the awards, designed to encourage young people into a career in food manufacturing and technology, just as he was completing his degree in food science with industrial training at The University of Reading. Daniel is now on a two-

year technical management trainee programme with ABP Beef, the UK's largest beef processor, and a division of ABP Food Group.

His enthusiasm and dedication to go the extra mile on top of his studies impressed the panel of industry judges which included SOFHT Student Award sponsors Diversey Sealed Air and Tesco. The judges commented that Daniel's dissertation was 'well written, comprehensive and showed that he had carried out considerable research'.

His prize was £250 cash, membership of SOFHT and £400 worth of vouchers from Campden BRI to spend on



technical resources, which will be extremely useful in his first role in the food industry working for ABP Beef.

Future packaging trends revealed

Smurfit Kappa recently welcomed more than 180 of its high profile pan-European and American customers to its Innovation Event.

Under the theme of 'The Future Unpacked', visitors were treated to the latest insights and developments along with expected future trends in the paper-based packaging industry. Exhibiting its innovations in design and sustainability, Smurfit Kappa also revealed new technologies such as online printing, augmented reality

and e-commerce and how they expect these will impact the packaging industry in the future.

A highlight of this year's event was the 3D Store Visualiser, a technological advancement that allows customers to analyse and optimise packaging performance virtually, enhancing the shopper's experience.

The visualiser gives access to thousands of interchangeable optimisation scenarios, pictures, movies and live demos of segment brands and

customer specific packaging options to face their on-shelf challenge. All of these options are projected on a giant 4.5 by 2.5 metre high resolution screen.

The Innovation Event, held on a regular basis, is organised by Smurfit Kappa to honour excellence in packaging design and sustainability. The company's customers form two juries which judge entries from designers and sustainability teams, with the event culminating in a final dinner and awards ceremony.



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Dairy dispute

The Lithuanian dairy industry has been struggling to export products to Russia after Russian food standards agency Rospotrebnadzor accused its producers of selling below standard food.

Additives approved

The EU Council of Ministers has added a total of 23 flavourings to the list of additives approved for use on the EU. These include Hexyl 2-butenate and cis-3-Hexenyl 2-methylbutanoate.

PACE urges review

The Parliamentary Assembly of the Council of Europe (the non-EU body with a broader membership, including Russia) has formally called on its member states to strengthen food safety controls and labelling requirements, back independent research on emerging risks and reduce food production waste.

Technical guide

The Council of Europe-associated European directorate for the quality of medicines and health-care (EDQM) has released a technical guide on metals and alloys that can safely be used in food contact materials and articles.

It is supposed to help member states comply with the council's European Pharmacopoeia convention.

EU to tighten food fraud controls?

European Union (EU) regulators are tangling with the difficulty of tightening rules-of-origin for meat products, given the potentially significant number of manufacturing stages required.

The European Commission and European Parliament have been considering their response to the horse meat labelling scandal. Commission officials may consider insisting on partial

origin labelling, noting only where a source animal was finished and slaughtered, not processed, canned, packaged or retailed.

A draft European Parliament report has called for EU food chain controls to increase focus on fraud prevention, with food inspectors proactively seeking out wrongdoing in labelling and ingredient declarations. "A change of attitude is needed within the competent



authorities, moving from an administrative and veterinary approach towards a policing approach," says the report from centre-right Dutch MEP Esther de Lange.

Canadian trade agreement

The EU and Canadian food and drink industries are looking to boost mutual trade with the announcement of a Canada-European Union (EU) Comprehensive Economic and Trade Agreement (CETA), after four years of talks. Ottawa agreed to allow more EU dairy exports in Canada, and Brussels, more Canadian beef in the EU, to resolve final negotiating difficulties.

Recycled PET declared safe

After considering the safety of plastic recycling manufacturing methods for making new bottles, the EFSA has declared safe the use of recycled PET obtained from the Equipolymers Melt-in process for food and drink contact containers made of 50% recycled post-consumer PET.

It also said the CPR Super-clean PET recycling process using hot caustic washed and dried PET flakes is safe for food and drink containers when source bottle sources were less than 5% PET from non-food consumer uses.

Indication status for Croatian foods

Croatia's food sector has started reaping the benefits of its June EU accession, with officials



lodging papers to ensure EU geographical indication status to the Baranjski 'kulen' (sausage) from the Baranja region and the Neretva mandarin from the Neretva Valley. These names would not henceforth be used to sell foodstuffs in the EU, except for such products made traditionally in their Croatian home regions.

Green light for gum

In its ingredient regulatory controls, the European Food Safety Authority (EFSA) has concluded that novel food methyl vinyl ether-maleic anhydride copolymer (Gantrez SF) is safe to use as a chewing gum base ingredient. This assumes consumers chew up to 14g of gum a day, which would see them consume a maximum of 280mg of Gantrez SF. It has also concluded that colourings riboflavin



(E 101(i)) and riboflavin-5'-phosphate sodium (E 101(ii)) 'are unlikely to be of safety concern' regarding their current level of use in the EU.

'Omics' deemed too risky

The EFSA has concluded that while 'omics', such as transcriptomics, proteomics, metabolomics and toxicogenomics are gaining credibility as research tools, it cannot recommend their

comprehensive use for risk assessment. This is because of a "lack of microbiological omics data on host-pathogen interaction and changes in expression of pathogens under different conditions".

The UK is one of the most obese nations in Europe and has one of the highest obesity rates in the developed world. Some 23 per cent of adults are classed as obese (with a body mass index – BMI – of over 30) and 61.3 per cent are either overweight or obese (with a BMI of over 25). For children, 23.1 per cent of four to five year olds are classed as overweight or obese, as are 33.3 per cent of 10–11 year-olds.

This has serious implications for health and fitness. Excess weight is a major risk factor for diseases such as type 2 diabetes, cancer and heart disease, and it is estimated that excess weight is costing the NHS more than £5bn each year [1].

Against this backdrop, the Government has been working with the food and drink industry – including some of the world's biggest and most well-known brands – to reduce calorie levels. The Public Health Responsibility Deal's calorie reduction pledge is one such initiative and is aiming to cut five billion calories from the nation's daily diet.

This is no mean feat. It is a complex issue with no universal remedy. While portion control has been suggested as a potential solution, it is unlikely to be an acceptable solution for all consumers. The responsibility deal is helping food manufacturers and retailers to reformulate to reduce calories by cutting saturated fat and sugar levels, whilst work is also ongoing on salt reduction.

Reformulating existing products without affecting consumer perceptions of quality, taste and appearance is technically very challenging. However, diet and health is now a major driver of product reformulation activities. Campden BRI is seeing significant interest in the whole area of product development and reformulation, and in addition to generic research, is helping clients to apply technologies and techniques to their problems.

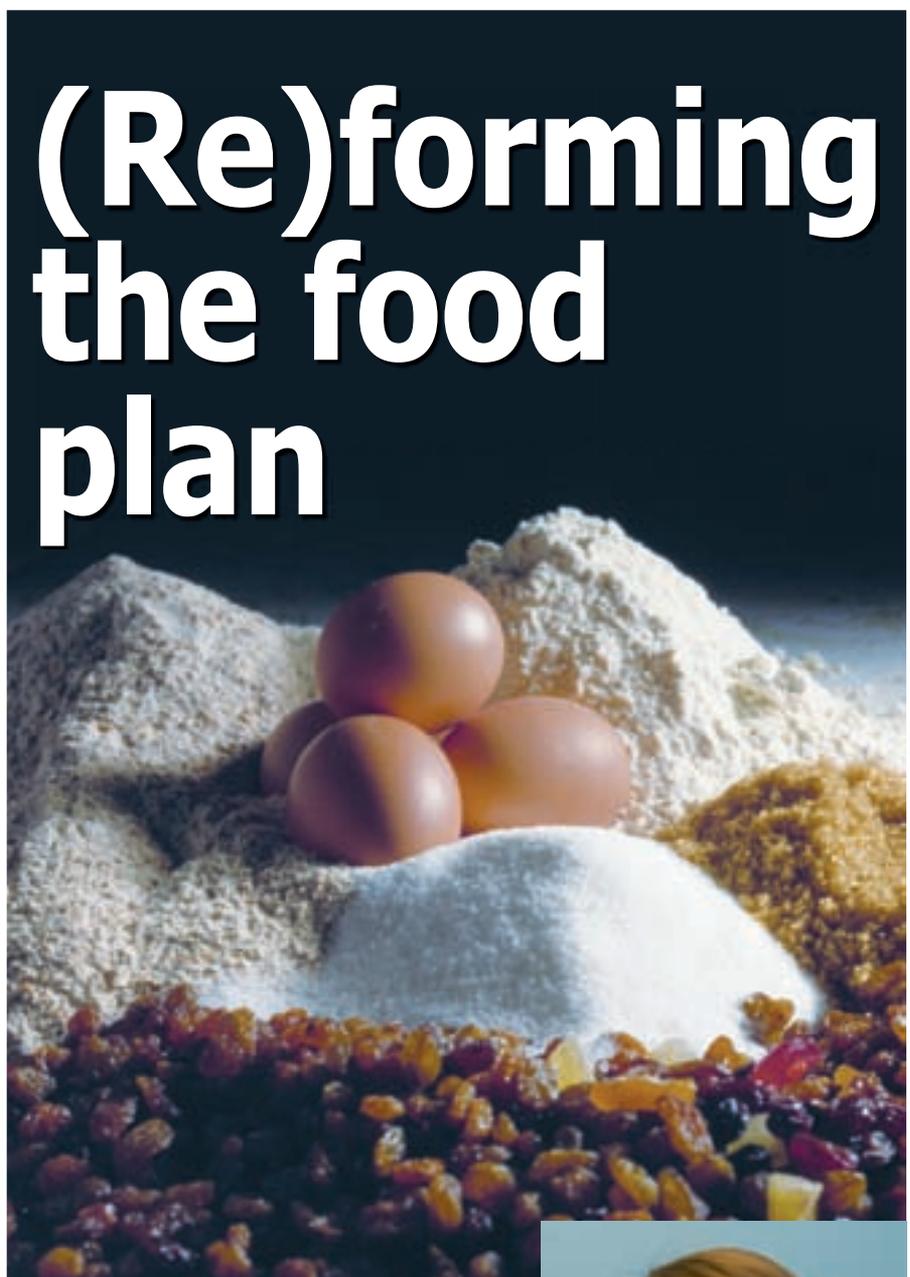
Trimming the fat

In terms of fat, the UK Government's responsibility deal has introduced voluntary saturated fat reduction targets.

While the replacement of hard fats with polyunsaturated oils has seen significant success in some food groups, there are some sectors where this has been less effective – such as bakery products, fillings and toppings and reformed meats where the fat has a significant technological function.

Food manufacturers recognise the need to reduce the level of hard fats; however, there are currently no commercially developed routes to achieve this for many products.

The baking industry has tried switching from using hard fats to baking with



Emma Hanby, Rachel Gwinn and Charles Speirs of Campden BRI discuss how reformulation and product innovation can support healthier lifestyles



Emma Hanby

healthier alternatives, but this is not easy and brings with it its own set of challenges. In traditional baked treats such as cakes, fat in the form of butter or margarine has a very important structural function, conferring a soft, tender eating quality by helping bubble growth and aeration during baking. The fat stabilises air bubbles in the batter to give a fine crumb structure creating the soft, springy, sometimes 'fluffy' texture which is

so appreciated by consumers. Without these interactions, cakes will not rise correctly and mouth-feel and flavour will suffer.

Switching to oils is not straightforward. While oils help provide a favourable taste, texture and quality, they have a tendency to move around, unlike hard fats, which tend to stay where they are. The result is that oils can often sink to the bottom of cakes after baking, creating an undesirable oily texture.

The cake crumb will have a dry eating quality, adversely affecting shelf life.

Nevertheless, hard fats in cakes are being directly replaced by vegetable oils, but the consequence is that cake quality is often being compromised in terms of cake volume, softness, tenderness, overall appearance and shelf life.

Campden BRI is currently undertaking an in-depth research project looking at routes to stabilise oils in the baking process and provide the correct rheology and melt characteristics to substitute for hard fats in food products. The findings of this research promises to have significant implications for the baking industry as it strives to lower saturated fat levels in line with government recommendations. Initial trials conducted by our bakery technologists with both biscuits and cakes look extremely promising, with overall reduction in fat levels and significant reduction in saturated fat levels achieved with no compromise on product quality.

Spoonful of sugar

Sugar reduction is another key aim of governments in the bid to lower calorie consumption. However, sugar has many functional roles in food products beyond its core sweetening properties. These include: contributing to texture, volume and mouth feel; appearance; flavour balance and preservation.

Recent approaches to reducing the calorific value of high sugar food and drink products have resulted in manufacturers

replacing sugars with a range of substitutes including: natural sweeteners, blends of sugars, high potency sweeteners, sugar alcohols and bulking agents with lower calorie contents than sugar. These sugar alternatives have a broad range of characteristics – for example, some products may offer a sweetness rating far greater than that of sugar, but may not provide any of the technical functions of sugar and vice versa.

A wide variety of alternative products are available for use to substitute for sugar in processed foods and beverages and there are some new, intense and bulk low and no calorie sweeteners manufacturers can use. However, they are not all suitable or permitted for all applications and markets.

One sugar alternative which is rapidly gaining ground in the food and drink industry (following its approval for use by the EU in December 2011) is Steviol glycosides. The product is derived from a herb that is native to South America. Steviol glycosides are extracted from the *Stevia rebaudiana* Bertoni plant and formed into an off-white, crystallised powder for use as a high potency sweetener.

The principal sweetening compounds of the *Stevia rebaudiana* Bertoni plant are Stevioside and Rebaudioside A. To be marketed as sweetener extracts, they must meet the regulatory purity criteria laid down in Commission Regulation (EU) No 231/2012 of 9 March 2012.

Steviol glycosides have no calorific value and a relative sweetness of 200 to 300 times that of sugar, along with a negligible

effect on blood glucose, meaning it is suitable for people on carbohydrate-controlled diets. However, Steviol glycosides have been associated with a bitter aftertaste at increased concentrations, which is thought to taste similar to liquorice, and which some consumers may find off-putting. Manufacturers may therefore have to use masking agents to hide the after-taste to consumers.

The marketing of the *Stevia rebaudiana* Bertoni stevia plant as a foodstuff is currently not allowed. EU food law states that the words 'stevia' or 'stevia extract' may not be used in the marketing or labelling of foods that refer to steviol glycosides used as a sweetener. This is because there has been no approval for use of whole, or parts, of the stevia plant. It is therefore considered that using the wording 'stevia' may mislead the consumer.

Campden BRI is involved in a project focusing on the calorie reduction of food and beverages while attempting to maintain the organoleptic properties of the respective products. The research will challenge sugar and fat limits to assess how low food and drink manufacturers can go without compromising product attributes.

Supporting product innovation

New product innovation and product reformulation are clearly critical activities that all food manufacturers must undertake if they are to maintain a place in a competitive market. Campden BRI can help manufacturers at all stages of the new product innovation process, as well as assist with all aspects of product reformulation.

Key areas of interest at Campden BRI currently include: reformulation for diet and health, beverage formulation, development of heat preserved foods and reformulation for clean label.

With pilot scale processing facilities, test bakeries, a dedicated NPD laboratory, test kitchens and a multidisciplinary team of development technologists, bakers, nutritional specialists, chemists, microbiologists, sensory scientists and food and drink processing experts, Campden BRI has the skills, expertise and facilities to support the development of a wide array of food and drink products – including baked goods, fruit and vegetable products, soft and alcoholic drinks, meat and poultry products, to soups, sauces and ready meals – from conception to implementation. ■

Reference:

[1] HM Government – *Healthy Lives, Healthy People: A call to action on obesity in England*, 2011



Sugar alternatives such as stevia can offer numerous advantages

A clean slate

Lindsey Bagley explains what is driving the science behind new ingredients



Lindsey Bagley

One of the current principle drivers of product development is 'clean labels'. This trend has resulted in a major reformulation activity that has ricocheted across the whole of the food industry, and manufacturers are taking this opportunity to 'spring clean' their formulations. This process begins by studying all ingredients for their contribution and rationalising those that have only limited or historical value.

These shifts in ingredient acceptability are at the heart of many new ingredient developments.

Colours

We consume with the eye first, the nose second and only then with our tongues. Colour has always been a recognisably important part of our sensory appreciation of food, and so product developers have ensured that the visual impact of natural colours lost during food processing are effectively replaced with added colouring materials.

For example, canned peas are much less attractive without added colour to replace that lost during heat processing. Colour is also lost over shelf life, and added colouring materials can compensate for the loss. The addition of colouring materials undoubtedly makes a product more attractive, but they also make a product identifiable; many

soft drinks would be various shades of grey without added colourings.

However, colours have been under particular scrutiny ever since hyperactivity in children was first associated with some azo dyes. There is now a wide palette of natural or naturally derived colours available, and these are used across many product categories, although some compromises need to be made, such as overall attractiveness, taste, stability and additional cost (ten times cost in use compared to artificial colours).

Flavours

Flavours go hand-in-hand with colours in many confectionery items, and so natural flavours were likely to follow natural colours. The flavour industry had pre-empted this by developing the techniques and know-how to manipulate natural flavouring compounds to provide the required stability and quality without impacting prohibitively on costs, although cost in use is usually a tenfold increase.

In the savoury flavours sector, consumers' expectations of natural, MSG-free flavours were driven by on-pack claims for its absence, which fuelled the belief that it was an undesirable component and should be avoided. Again, natural flavours have become the norm and the trend is to derive flavours solely from extracts. However, it

is still more ethical to use artificial meat flavours, as producing natural ones often means producing ingredients from animal products – which of course means killing animals.

Sugars and sweeteners

Refined sugars are often criticised for being nutritionally bankrupt, but high carbohydrate foods do have their part to play in the overall diet. A 'no added sugar' position is often achieved with chemically derived, high potency sweeteners and/or sugar alcohols, so the options have to be carefully explained to the consumer. The arrival of stevia sweeteners and potential natural sweetening systems will add some new dimensions to this category.

Stabilisers and thickeners

The scrutiny of ingredients applies equally to those used for thickening and stabilising foodstuffs. Starch is generally a consumer friendly term as it is well understood; and corn flour has been a store cupboard ingredient for decades. In recent times, starches have progressed from the shortcomings of native starches through to the performance enhanced chemically-modified starches back to native starches once more. Native or 'natural' starches are more consumer friendly compared to their chemically

derived alternatives, and the difference this time around is that new science has been applied. Native starches have been physically processed to provide enhanced performance. Using methods such as heat and pressure, functionalities similar to those of chemically modified starches can be generated, with these physically modified starches offering good freeze-thaw, high heat and acid stability.

Breeding programmes are also looking at improving the properties of traditional sources of starch such as maize, waxy maize, tapioca, potato and rice. By altering the amylose to amylopectin ratios, their abilities to bind water and add structure to foods under different processing conditions is enhanced. Alternative sources of starch, such as pea starch, are also being investigated.

Another group of thickeners and stabilisers which are very consumer friendly are pectins, a cook's ingredient in jam making for generations. Generally, formulators now prefer thickeners and stabilisers such as the natural gums and plant extracts, as their source is easier to explain to consumers.

Emulsifiers

Emulsifiers generally have very long chemical names and so have needed explanation; only now is science beginning to catch up with the technical and labelling requirements. Consumers are familiar with lecithin, as it is naturally derived and has been used as a supplement for many years; it fits easily into the 'accepted' category. However, it does not fulfil all the technical requirements for stable emulsions.

Since the group of foods generically described as 'emulsions' includes bread spreads, ice creams, and mayonnaise, the importance of being able to produce them efficiently and to effectively maintain their shelf stability is clear. Recent innovations include processing techniques for stabilising emulsions and also the use of novel but consumer friendly components, such as using fibres and cyclodextrins for their emulsification properties.

Antioxidants and preservatives

The trend for natural reformulation raises food safety concerns in the case of preservatives. Where a preservative has an aesthetic impact, such as using sulphur dioxide to inhibit browning in fruit and vegetable processing, food safety is not an issue. However, where the removal of preservatives has the potential to result in microbiological spoilage and food poisoning, food safety becomes a key consideration.

A 'knee-jerk' reaction to the removal of preservatives has potentially lethal

consequences for some unwary manufacturers, and is not helped by claims of 'preservative free' on products that have never needed this functionality. A number of new, naturally derived preservatives are in the development pipeline to enable more options for this functionality.

If consumers are told that salami without sodium nitrite carries a risk of botulism, then they appreciate why it is needed and can decide whether or not they wish to consume it. The presence of nitrite is not a choice but a necessity. Similarly, bacon is not technically possible without saltpetre (aka potassium nitrate), and whilst this can hardly be considered a store cupboard ingredient, we do not expect bacon to disappear from our shelves any time soon.

Fats

Hydrogenated fats and trans-fats, once the darlings of food manufacturers for their processability, stability, and versatility, are now known to have negative impacts on our health and have been progressively removed from our foods. Now, partially hydrogenated and inter-esterified palm fats are being replaced with physically fractionated palm oils, with different fractions providing the range of functions previously provided by hydrogenated fats.

We are on a mission to reduce saturated fats in our diet and some traditional foods will be phased out during this process as they become too difficult or impossible to provide in an economically efficient, shelf-stable form.

The use of sunflower, olive and rape seed oils, which contain fatty acids prone to oxidation, has its limitations. Breeding programmes have developed strains of these oil crops with lower levels of polyunsaturated fatty acids. Currently, sunflower oil can be produced containing more than 80 per cent of the more stable mono saturated oleic, omega 9, fatty acid.

Future

Whilst it is difficult to champion reformulation for its own sake, this era of scrutinising ingredients has made manufacturers think how best they can formulate products rather than most easily formulate them.

Ingredients are being rationalised and we will end up with a tidier, more efficiently formulated range of foodstuffs on our shelves. Coupled with nutritional optimisation, these activities are significant challenges to the ingredient industry and to product developers.

Formulation is not one dimensional; take out sugar and you impact structure, stability, acidity, colour and flavour; reduce salt and you impact taste and stability and change the way starch behaves.

Tackling these issues has required a new level of scientific understanding from the ingredient industry. ■

- Lindsey Bagley is CSci (Chartered Scientist) and Fellow of the Institute of Food Science and Technology (FIFST). This article was supplied on behalf of IFST.



Canned peas would look much less attractive without added colour



Playing it safe

Tony Bryant explains how inspection technology has advanced over the years to keep up with demanding food manufacturing processes and ever-changing retail regulations



In the fiercely competitive environment that is the food industry – with increasingly stringent regulations, extremely high customer expectations and greater pressures on bottom lines – food manufacturers are now more demanding than ever when it comes to choosing the right inspection equipment for their production lines.

Quality control is an essential part of any food manufacturing process in ensuring that products are both uniform and safe for the consumer. To warrant safe products and prevent a costly and reputation damaging product recall, suitable contaminant inspection procedures must be in place to guarantee the final products are free from harmful contaminants such as metals.

EU legislation and regulations dictate that all food processors and manufacturers implement a documented food safety management system based on Hazard Analysis and Critical Control Point (HACCP) principals, which must show that adequate inspection processes are in place. Food manufacturers also need to demonstrate tight product control and complete line integrity and respond to individual Retailer Codes of Practice (COP) or requirements set out by the British Retail Consortium.

Inspection procedures and equipment have been deployed for decades in the food industry. Metal detection has traditionally been the inspection choice for food processors, and continues to be a trusted method used to keep food safe and to assist manufacturers in the demonstration of product integrity. Today's x-ray inspection systems are increasing in popularity as they ensure complete food safety.

Metal contaminants are one of the most

common contaminants found in food processing. Metal detectors can detect with a high degree of accuracy, ferrous and non-ferrous metals, as well as stainless steel in both fresh and frozen food products that are either packaged or unpackaged.



Today's metal detectors have to operate at different frequencies to offer the better detection performance across a wider range of products and packaging. In the Loma IQ3+ search heads, variable frequency technology operates at frequencies between 40kHz and 900kHz with the ability to auto select the 'correct' operating frequency in seconds. This eliminates the past restrictions caused by single frequency and limited (two, three or four) frequency detectors and ensures manufacturers achieve optimum frequency to give the best inspection.

In addition to the detection of metals, x-ray machines can search for contaminants such as ceramic, glass, bone, plastic and stones. x-rays systems can also detect for missing, underweight or improperly packaged product at the same time as inspecting for foreign bodies. Many leading retailers are seeing this benefit and are driving the

trend for x-ray inspection as the 'code of practice' for foil or metallised product packaging.

Loma's new flagship X5 x-ray inspection system (pictured above left) incorporates features that bring strong levels of product integrity to the busiest of food packing lines. Hygiene and cleanliness is essential for retailer compliance, but it's imperative that inspection equipment suits the environment that it is to operate in.

With so many food manufacturers wanting to display diligent house keeping, many insist on machines that meet IP69K harsh wash-down procedures. The X5 incorporates rounded, sloping surfaces to ensure that food particles and wash-down droplets can't accumulate on its surfaces. Additionally, impermeable seals have been added to the x-ray cabinet to prevent water ingress, making cleaning quick and effective. The new tubular framework, made from high quality 304 grade stainless steel, is robust enough to withstand harsh working and wash-down conditions.

The inspection market continues to evolve as manufacturers and processors are placed under more pressure than ever before to adhere to food safety compliance laws. Whether responding to individual corporate standards or the latest requirements set out by the British Retail Consortium and other global intuitions, manufacturers must demonstrate tight control and due diligence.

Deciding which technology to select can be difficult. Look for a supplier that has both technologies in their portfolio, plus a broad range of case histories across all facets of food production. ■

– Tony Bryant is Loma System's UK sales manager



Explosive matters



Kevin Spiess looks at how the food and drink industry can work to prevent dust explosions

Explosions and fires within the food industry from combustible materials are a potential hazard. For example, there are dust explosion risks from materials including flour, custard powder, instant coffee, sugar, dried milk and soup powder. In the dairy industry, the biggest risk of a dust explosion is from milk dryers. Milk and by-products of milk production are often dried either to extend shelf life, reduce weight, help in transportation or to provide a more useful form as an ingredient for other foods such as custard powder.

What does it take to cause an explosion?

A fire or explosion results from ignition of combustible material (dust, gas or vapour) when mixed with oxygen in the air. When this takes place inside a silo, process or storage enclosure, the rapid rise in pressure could cause a potential violent explosion in milliseconds, placing personnel and property at risk. Just a few burning embers are enough to trigger a dust explosion. Likewise, combustible material conveyed into a storage vessel such as bins or silos could become the nucleus of a fire.

These explosions can have a cascade effect as sparks or smouldering particles from food and drink production operations may spread to other vulnerable equipment. Dust that has settled on floors or walls can

be thrown into the air by a dust explosion, thus providing fuel for secondary explosions. Often, these secondary explosions cause more damage than the first. In this way, a dust explosion can jump from room to room or from silo to silo. This is a common phenomenon in dust explosions.

Most materials handling, processing and storage equipment is not designed to resist the pressure of an expanding flameball that proceeds below the speed of sound in air – known as a deflagration.

Protection measures

An explosion risk assessment will typically recommend that a series of protection measures be implemented. These range from investment in protection equipment to improvements in housekeeping to eliminate the build-up of deposits of combustible dust, which may accumulate on beams in the factory. These may be disturbed by a primary explosion in the process equipment and result in a more severe secondary explosion.

Fit silos or bins with explosion relief and vent to an unoccupied place of safety, preferably outside the building. Ensure that the venting system is designed to an acceptable standard. Codes and standards are now very clear in requiring isolation of vented equipment to prevent secondary explosions, which typically have much greater potential for damage and destruction. Vent openings should be unrestricted to allow the free venting of an explosion. Protective systems, such as explosion relief panels, also need to be ATEX certified.

BS&B Safety Systems has launched a bespoke spark detection and explosion prevention system for the food and drink industry, based on established systems developed for other industries. The SparkEx Spark Detection and Extinguishing System is designed to detect hot particles, sparks and glowing embers that might become the ignition source for a fire or explosion if allowed

to travel on through pneumatic ducting and conveyors towards other material handling equipment.

By preventing sparks, embers and hot particles from reaching dust rich downstream process equipment – such as dust collectors, bins and silos – both fire and explosion risks can be managed.

Using infrared detectors, the system detects the radiated light emitted from sparks, glowing embers and hot particles travelling past the detection point and activates control circuits. The greatest sensitivity occurs when these sensors are employed in a dark area such as closed ductwork, although optional daylight detectors are also available for use on open conveyor belts and for applications where light is likely to be visible. Upon detection, this system provides several options to manage the ignition risk:

- An electrical signal generated by the sensor activates control circuits typically used to operate an automatic water-extinguishing curtain. Sparks can be extinguished without stopping production.
- An automated shut down of the process can prevent the feed of combustible material.
- Alarm and control systems can be activated on detection of hot particles for other control devices such as diverter valves.

The system detectors and control unit are ATEX certified for use in a dusty working environment. This means there are no expensive costs for additional wiring to run from detectors to remote mounted control units, and plant personnel have direct access to the status of the equipment. In the event of an alarm condition, the operator can see immediately which process is at risk. A web based monitoring system, which allows plant managers to receive system alarms and faults to their smart phones, as well as monitoring the systems live on the internet. ■



The SparkEx Spark Detection and Extinguishing System



Almonds on-the-go

Health has been main driver of the snack foods market and for many consumers it takes the form of a healthy and natural snack such as nuts, and almonds in particular.

The concept of snacking is becoming broader with a wider range of snacking occasions throughout the day. Consumers are searching the shelves for new snack foods that satisfy their desire for flavour and sustaining energy throughout the day. Growth in almond snack sales and new product introductions confirm this increase in demand.

Head of research at Innova Market Insights, Lu Ann Williams, says, "Snacking is growing – premium positioning, texture claims, on-the-go and better-for-you snacks are all increasing. In this respect, almonds are beneficial to manufacturers as they provide the possibility to incorporate various trends in one product. Almonds work well with so many flavours – sweet, salty, spicy – that it's also easy to incorporate them as an ingredient into many snack and confectionery products."

This versatility has contributed to the volume sales growth rates of almond snack nuts, which outpaced the category and nearly every other nut in the UK in 2012. Both almond distribution and velocity picked up

The European snack foods industry continues to experience strong growth with sustained demand for foods that can be eaten on-the-go by time-pressed consumers

significantly in the second half of 2012 and are both close to three-year highs.

Snack nut analysis

Innova's recent *Global New Product Introductions Report* shows increases in health-based snack foods. This can also be seen in volume and value sales of nuts in key European countries. According to snack nut sales analysis, the usage of nuts in snacking is very similar, particularly in UK and France.

Between 2010 and 2012, nuts in the UK and France have grown value sales through price increases (via actual increases or shifts in nut type sales) compared to volume. Almonds, on the other hand, are growing value and volume sales at the same rate – there has been a 24 per cent increase in almond snack volume sales in the UK since 2010 and nearly 20 per cent in France.

In the UK, almonds are leading nut sales growth and are one of just four varieties

growing. The UK nut category overall is expanding distribution despite lowering total volume sales and almond distribution is growing quickly, though other nuts have higher distribution. In France, 2012 almond snack nut volume sales growth far outpaced the snack nut category. Almond volume sales increased by 24 per cent with prices remaining stable, while the total category remained relatively flat at 2 per cent volume growth.

The German nut market is much larger than the markets in either France or the UK. Almonds and pistachios were the only two nuts to experience volume growth in 2012 in the country.

New product introductions

While sales figures show an important side of the market, manufacturers give the strongest indication of the trends through new product introductions. New research by Innova Market Insights shows that almonds

are the number one nut in new food products worldwide, having grown 148 per cent since 2005.

Almonds' taste and texture possibilities play a key role in their usage in many snack product applications. Blanched, roasted or natural, the improvement in texture or nutritional boost enhances products without overpowering them.

Brands are teaming up to create novel snacking products, enabling unusual mixes of textures and flavours. Innova found an increase in new introductions with wordings such as crispy, crunch, chewy, chunky, clusters, bites and texture. Recent examples of new product flavourings vary extensively across sweet, salty and spicy and even 'almond crunch' is being used as a flavour name in its own right.

Other snacking trends have been seen in recent introductions:

- Portion packs and 100-calorie packs
- Calories combined with satiety
- Permissible indulgence
- 'Free-from'
- 'Smart Snacking' with messages of lower saturated fat levels
- Fibre and digestion claims
- Antioxidant association.

In this respect, almonds are beneficial to

manufacturers as they provide the possibility to incorporate various trends in one product. The increase of almond introductions in snack products was substantially higher (24 per cent) than the increase for food introductions (8.8 per cent) and nut introductions (13 per cent) within this category in Europe from 2011 to 2012.

Empowered consumers

Manufacturers also have to consider how consumers are becoming increasingly attentive and aware of their food choices. Transparency, sustainability, clean-label and credibility are now issues facing many food producers, both from consumers and governments.

Williams notes usage of simple, clear and transparent labels have become mainstream. "Clean label is not going away. The name might change a few more times, but the idea is the same. Consumer interest in products with simple labels that they understand is continuing to grow. I am not saying it is the only way to go or that there is not room for many kinds of products, but simplicity, natural, clean label is here to stay," she confirms.

This has also been reported in the 2013 *Sterling-Rice Group Global Perceptions*



Study, which queried consumers worldwide on their attitudes towards almonds as snacks. The survey found that globally, 75 per cent of respondents associate almonds with being natural, great tasting and nutritious. Kate Thomson, director of insights and strategy for Sterling-Rice Group says, "Our consumer research shows that almonds' nutritional profile and portability really fit the bill."

Nutritional benefits

The good news for manufacturers is that almonds are extremely nutrient dense and for every nutrient for which almonds are at least a source of, there exists the possibility of making a myriad of health claims that are associated with that specific nutrient. Almonds are a natural source of protein and fibre and contain 15 essential nutrients, including 65 per cent of the daily requirement of vitamin E. Compared to other tree nuts, gram for gram, almonds are the nut highest in protein, vitamin E, calcium, fibre, riboflavin and niacin. A recent study also suggests that adding almonds to the diet as a mid-morning snack may increase satiety, without increasing overall energy intake.

Additionally, in a recent almond study reported in the *American Journal of Clinical Nutrition*, researchers used a more precise method of measuring the calories in almonds. Almonds were found to have approximately 20 per cent fewer metabolisable calories than originally thought. A handful of 30g servings has just 138 calories versus the 173 calories listed.

Based on consumer demand and increases in new product introductions, a continual rise in healthy almond snack products can be expected. The wide range of almond forms and flavour possibilities is why European consumers rate almonds as being the most versatile compared to other nuts. Growing consumption and a broader range of snacking occasions is changing how manufacturers can take advantage of this category to increase snacking sales. ■



Snacking the healthy way



Research company Datamonitor reports that consumers are increasingly looking for healthy snack alternatives, with 42 per cent of consumers globally choosing healthy snacks. However, market data also shows that 36 per cent of them feel guilty after snacking. In Europe, this figure stands at 35 per cent, and in Italy this figure goes up to 40 per cent.

Non-communicable diseases (NCD) – such as diabetes, cardiovascular diseases and obesity – are on the rise. Consumers are increasingly aware that a healthy lifestyle starts with a balanced nutrition. As such, healthy snacks with reduced sugar or fat or fibre-enriched recipes present a great opportunity for food producers in Europe. They are now looking for food ingredients that help to improve nutritional profiles of products without sacrificing on taste and texture.

Major trends in snack production

There are four key trends we are seeing in the snack market in Europe and around the world:

- **All natural, clean labelling** – manufacturers are increasingly interested in having ‘cleaner’ labels. Naturally derived texturizers such as rice starches are thus of growing interest. The vegetal origin of rice starches contributes to optimised textures,

Rudy Wouters, vice president of Beneo-Technology Center, explains how food and drink manufacturers can make the most of new ingredients for healthier snacks

such as improved creaminess in fat-reduced dairy products with natural positioning but also helps to replace artificial whiteners in confectionery.

- **Sustained energy release** – consumers today need a lot of energy to get through their busy lives. Many (used to) resort to quick snacks or caffeine for that instant energy boost when they start to flag in the middle of the day.

Today, they are increasingly looking for snacks that give them a constant energy supply and help them to get through the day, rather than those that give a quick burst of energy that drastically increase blood sugar levels only to have it drop just as quickly. This presents an opportunity for manufacturers to deliver snacks with low glycaemic and fully digestible carbohydrates.

- **Low fat/sugar or fat-free/sugar-free** – with 1.6 billion overweight and obese people worldwide and 50 per cent of both men and women in the WHO European Region being overweight, weight management still is one of the most important topics within

the food industry. Providing more balanced nutritional properties with less fat and sugar, or even no fat and sugar at all, are thus of great interest for food and beverage manufacturers alike.

- **Wholegrain and fibres** – to reach the recommended level of dietary fibre intake and to maintain good digestive health, a good combination of natural fibre, such as wholegrains, vegetables and fruits, along with fibre-enriched food is needed. Food, such as cereals and snack bars fortified with fibre, offer quick and easy options for consumers looking to reach the daily required intake.

Healthier snacks for a healthier Europe

Europe is a region which embraces all sorts of snacks: snack/cereal/energy bars, wheat and grain based snacks, corn-based and also fruit snacks.

Beneo is developing functional ingredients from the natural vegetable sources chicory roots, sugar beet and rice. Its ingredients enable food manufacturers

to improve the nutritional profile of any snack category, whether it is fat or sugar reduction, fibre enrichment, or low glycaemic that is required. Beneo's expertise in functional carbohydrates, prebiotic fibres and rice specialties from nature is combined with applications – such as dairy, beverages, bakery and cereals, soups and sauces or confectionery – to help food manufacturers deliver healthier snacks without sacrificing appearance, texture, taste, and convenience.

Beneo provides a connected chain of expertise that supports customers in new product development from lab to shelf. The Beneo Institute, a network of minds bringing together Beneo's expertise from nutrition science, nutrition communication and regulatory affairs, provides decisive insight into nutrition science and legislation.

To complement this, the Beneo technology centre provides consultation in application technology including recipes, formulation advice and, if necessary, on-site support. It brings together Beneo's long-standing food application and technical expertise to enhance and encourage product innovation within the bakery and cereal, baby foods, beverages, confectionery and dairy sectors. By combining the experience of specialists within Beneo's different application fields, customers have access to a wide knowledge base for Beneo's ingredients in their main applications.

Finally, Beneo's marketing team offers strong market intelligence and consumer insights. All together, a holistic innovation process is given that takes the product from the lab to the shelf.

One example of how a new product idea was brought to life through a Beneo customer partnership was the development of sugar-reduced and fibre-enriched candies from a German confectionery manufacturer. Following a presentation showing concept ideas of new candies, the customer decided to produce sugar-reduced and fibre-enriched candies with Beneo's oligofructose, isomalt and stevia.

The team at Beneo Institute provided support on nutritional communication and



labelling, whilst the Beneo technology centre gave advice on the recipe as well as during the manufacturing process. Last but not least, the marketing team not only presented the initial idea, but also supported the communication of the product.

Great snacks galore

Beneo's ingredients can be used by food manufacturers in a variety of snack applications, including:

- **Fruit juice drink with Palatinose** – Palatinose is a low glycaemic but fully digestible carbohydrate derived from sugar beet, and thus has a sugar-like sweetening profile. Palatinose provides the full carbohydrate energy in a balanced sustained way, delivering energy over a longer period.
- **Fruit or cereal bars with oligofructose** – the prebiotic fibre oligofructose has a mild sweet taste and no effect on blood glucose levels. It helps to add fibre and partially replace sugar at the same time. It also masks the undesired aftertaste sometimes associated with high intensity sweeteners.

When Beneo's oligofructose is used in fruit or cereal bars, many benefits can be achieved, such as improved digestion and regularity

as well as fibre-enrichment and calorie reduction. Oligofructose also enhances the fruit flavour in a product.

- **Savoury cracker snack with inulin, rice bran, rice starch and rice flour** – using Beneo's prebiotic fibre inulin and rice ingredients, the cracker is high in fibre and wholegrains while having a crunchy texture. It can be combined with the fat-reduced and creamy spreadable cheese which contains rice starch and inulin. Both ingredients contribute to a creamy texture and fat-like mouthfeel.
- **Dairy alternative drink, with Beneo's rice blend Nutriz** – combining the goodness of rice in one ready-to-use compound, Nutriz has a neutral taste and white colour. It gives the end product a creamy texture and balanced taste. Beneo's Nutriz is suitable for non-dairy milk or yogurt-type beverages, smoothies or fermented drinks.
- **Fat-reduced sausages with inulin** – while enhancing a product's fibre content, Beneo's prebiotic fibre inulin also imitates the mouthfeel of fat particles and is thus ideal to reduce the fat and calorie amount in high quality sausages. Texture and taste are not affected. ■



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Bulk transportation of wine can be achieved in many ways, but traditional delivery methods can prove restrictive. JF Hillebrand has developed a novel Wine Train that offers an alternative

In an age where reduced CO₂ emissions are as important as cost and time efficiencies, JF Hillebrand's Wine Train is a particularly valuable addition to the supply chain.

Launched in 2008 and operating from Monday to Friday, each train carries more than 250,000 bottles of wine from Tilbury, Essex to Daventry, Northamptonshire.

Having developed the service in close conjunction with railfreight operator Freightliner, the Wine Train is able to deliver high levels of efficiency and environmental gains for customers. Using the service to transport their goods saves 204 miles over the equivalent road trip. This equates to 280,360 grams of CO₂ emissions per container shipped via the rail service, and an annual reduction of 1.7 billion grams of CO₂ each year.

Motorway congestion is also being eased as the service has taken approximately 6,000 vehicles off the M25 and M1.

The service is exclusive to JF Hillebrand and carries wines from countries including Australia, South Africa, South America and European cargo that originates from Germany and Italy.

Reliable and on-time

As well as meeting current and forthcoming environmental targets, another advantage the Wine Train delivers is enhanced reliability. A failed or delayed delivery could mean that a warehouse booking slot is wasted and that employees are under-utilised during their shift. JF Hillebrand's on-time delivery rate shows that 98 per cent of consignments arrive on time with no delivery failures.

The Tilbury Wine Train proved to be such a success that in July 2010, JF Hillebrand launched additional services connecting southern UK ports with a newly reopened freight terminal in Bristol. The new wine train services which transport bulk wine from three south-east UK ports into Europe's largest bottling plant in Bristol carry the equivalent of 5.7 million bottles of wine each week. Based on the train's maximum capacity to Bristol, up to 125 containers can thus be taken off the road.

Flexitanks service

This second service, operated on behalf of Accolade, uses JF Hillebrand's own Flexitanks – huge plastic bags which fill a 20ft sea container. Designing each Flexitank to hold 24,000 litres of wine in bulk has allowed JF Hillebrand to achieve a significant economy of scale. The alternative method of carrying bottled wine on pallets within a sea container reduces capacity to 10,584 litres. Flexitanks cut the number of containers that need to be shipped by more than half, while bulk wine shipments also incur lower import taxes.

With the service evolving to include new connections and growing volumes, JF Hillebrand will add the new London Gateway terminal to the train's itinerary. Customers will benefit from more port loading options, meaning that their ocean freight service choice could increase as they will be able to take advantage of the Wine Train's offerings from four South Coast ports. ■



“Via the Wine Train, 98 per cent of consignments arrive on time with no delivery failures”

Logistics for the future

Logistics considerations include not only efficient deliveries, but food safety and hygiene assurances. Clugston Distribution is covering all bases



Like the majority of industry sectors, logistics operators are under increasing pressure to invest for the future, adapting and changing in a fast moving environment.

Based in North Lincolnshire, UK, logistics company Clugston Distribution Services is strategically investing time and money into its future. In 2013, the company invested £2m (€2.3m) in capital expansion with a particular focus on its specialised bulk food and bulk powder tanker fleet, alongside the expansion of its intermodal operational capabilities.

The investment, which is part of the organisation's strategic growth plan, was made not only to help grow the business, but to further strengthen the company's promise of delivering 'product integrity' to its customer base. The increased demand and importance of on time, full deliveries is well documented, but food safety and hygiene are imperative, particularly when transporting bulk foodstuffs.

Bulk powder tankers

Clugston Distribution recently invested in two new Spitzer Eurovac bulk powder tankers; a food grade 60 cubic metre tipping silo, which incorporates the very latest in tipping chassis technology and safety



systems; and a state-of-the-art 56 cubic metre four pot non-tipping tanker.

Working closely with Spitzer Eurovac, the non-tipping tanker (which was the first of its kind in the UK) was specifically developed with the flour industry in mind, to overcome the problem of flour holding up inside the tank, whilst the discharge system was designed for ease of cleaning.

A secondary benefit is that Clugston Distribution has a number of customers whose discharge points have a camber, which means use of a traditional tipping trailer is dangerous and the non-tipping tank provides a much safer discharge solution. One of these customers, a major bread producer in the north of England, specifically requested a non-tipping flour tanker because of the on-site camber.

Bag-in-box containers

Clugston Distribution is also actively involved in moving food grade products in partnership with inter-modal logistics specialist InterBulk using six new 30 foot tipping frame trailers that Clugston have purchased to allow discharge of bag-in-box products from containers. Clugston provides the tractor, trailer and driver resource to undertake the final leg on Interbulk's worldwide supply chain from UK ports on bag in box containers.

David Heath, head of logistics at Clugston Distribution, says, "We are committed to ensuring quality in all our services. We have a dedicated food tanker fleet, which is used to only carry bulk food products. Dry bulk tankers offer

several advantages over other methods of transportation; they reduce product losses, eliminate double handling and can guarantee quality due to their enclosed systems, significantly reducing the risk of introducing foreign contaminants."

Environmental factors

There are also environmental factors that need to be considered when operating within the logistics sector. In the UK, logistics accounts for a third of harmful gas emissions and the industry is under increasing pressure to help reduce the figure.

Clugston Distribution is committed to reducing carbon emissions, limiting the impact it has on both the local and wider environment. This has been highlighted with the investment the company has made in its 'green' strategy, reinforcing a commitment to its ISO 14001 accreditation. The company has in-cab Safer Driving Assistants, supplied by CMS SupaTrak, which give real time feedback to drivers on positive and negative driver behaviour behind the wheel which in turn encourages driving styles that improve fuel economy.

The company is also involved in the use of Vendor-Managed Inventory (VMI) systems, which remotely monitor customer bulk food silos around the UK, and coordinate deliveries using real time stock level and tank stock level information alongside vehicle location data from satellite tracking systems.

Within the next three years, Clugston is aiming to take its largely regional bulk food operation to a multi-geography shared user solution with increased vehicle asset numbers to take on new customer opportunities. ■

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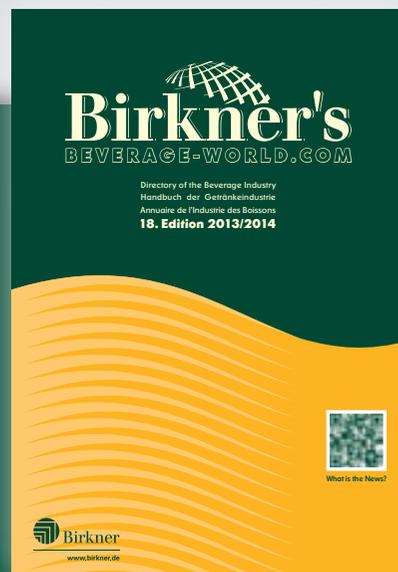
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Surging soups and sauces



Key Note has recently published a series of reports on the soup, sauce and spread markets. Simon Rowley provides a round-up of the market research company's findings

Market growth in the UK soup market has fluctuated over the past five years, but the good news is that the industry has remained resilient and has continued to increase in value, even during the economic crisis. Overall, it has grown by nearly a third (31.6 per cent) to £612m.

Public concerns over salt content in manufactured soups, as well as leaks from containers – both plastic and tinned – hindered market growth in 2009 and 2010. In response, manufacturers upped the vegetable content of many of their soups and highlighted the natural ingredients in their products.

Furthermore, they began to market their soups as 'convenient lunchtime solutions', especially for working professionals, and launched premium variants, particularly within the fresh chilled soup category.

These trends were the primary reasons

behind the market growth of 10 per cent in 2011.

The UK soup market is made up of three main sectors – wet ambient soups, fresh chilled soups and dry soups. Key Note's latest report on the market states that wet ambient soups are the UK's favourite and account for more than half of all soups sold in terms of value. Heinz is the leading brand in the market, and is responsible for approximately 70 per cent of sales in the category. Meanwhile, own labels dominate the fresh chilled soups sector, and encouragingly, it was found that small premium brands are also performing well.

In contrast, dry soups have struggled in recent times, but as of 2012, they appeared to be making somewhat of a comeback – a resurgence that is put down to innovation and marketing efforts by brands. In total, the market's value grew by 8.9 per cent in 2012. Soups are popular in the UK, and despite

falling consumer spending, there remains a strong demand for products in the market. Variety and new product development (NPD) – especially in flavour and format innovation – have played a major role in this trend. Manufacturers are launching exotic soups (such as Heinz Cream of Tomato with a Twist of Chilli), as consumers become more adventurous in their cuisines, as well as to stand out on saturated retail shelves. In addition, there has been a rise in smaller formats that appeal to working professionals who eat lunch at their desk, as well as the growing number of Britons who are living on their own.

There is also a growing demand for quality and nutritious soups.

A difficult environment

Although the soup industry has remained resilient throughout the economic crisis and grown year-on-year, manufacturers are

operating in a difficult environment. They have been unable to meet the Government's voluntary salt reduction targets, as in many cases, the necessary technology does not exist. In addition, competition in the market is fierce and to maintain market dynamism, manufacturers have no other option but to continually introduce new ranges and refresh their brands, as well as launch marketing campaigns to encourage consumers to remain loyal to their preferred brands. Furthermore, they are facing growing pressure to engage in promotional activity and absorb rising production costs, which threaten to affect their sales and profit.

Regardless of tough market conditions, Key Note predicts that the soup market will continue to grow over the next five years. Between 2013 and 2017, the industry is forecast to rise by 29.5 per cent, a similar figure to that of the past five years. Contrary to current market trends, the values of the wet ambient and dry soups sectors are expected to increase at a faster rate than that of the fresh chilled soup sector, and it is believed that better value will play a critical role behind this trend.

Sauces and spreads

The sauces and spreads market has also been successful, growing by an estimated 20 per cent between 2008 and 2012.

Sauces, such as tomato ketchup and mayonnaise, are thought to account for around 60 per cent of the total market, having lost some ground to spreads since 2008 in terms of market share by value. Sweet and savoury spreads, such as jams, marmalade and honey, make up the rest of the market.

This market is particularly intriguing, because although saturated, it contains sev-

eral products that many consumers consider nothing short of essential – even in times of economic difficulty – and has demonstrated consistent year-on-year growth as a result. While much of this may be attributable to hikes in commodity prices pushing up retail prices, customer loyalty was found to be 'guaranteed' for many products, and it is anticipated that this will continue to provide a strong base for volume sales.

Loyalty to specific brands is perhaps less strong. Some consumers always buy the same brand of their favourite sauce or spread, while others have been tempted away by lower-cost own-brand variants from supermarkets. The rise of supermarket offers, particularly during the current climate of economic instability, has undermined value sales of established brands.

Key Note expects the sauces and spreads market to grow fairly slowly but steadily over the forecast period. The future of the industry as a whole is secure, as many products within it are firm favourites with consumers.

Spicy flavours

It was observed that one of the most important current trends in the sauces industry is the ever-growing demand for hot sauces. British consumers have always enjoyed spicy foods, and as foods that were once seen as exotic become more and more a part of everyday British cuisine, the demand for spicy food is growing even more.

New product development reflects this demand, with new flavours ranging from relatively mild to fiery hot. Examples of new ranges include three new sauces from Unilever's Colman's brand – hot garlic chilli, sweet mango chil-

li and smoky BBQ – which the company has aimed at new, younger shoppers. The casualty of this demand for hot sauces has been the traditional sauces sector. Several traditional sauce and condiment brands, including HP and Lea & Perrins, saw sales decline in 2012, losing out to spicier and perhaps more exotic variants.

Tackling obesity

The issues of obesity and of healthy eating in general is highly relevant to the sauces and spreads industry, as many products tend to be high in fat, salt and/or sugar. With obesity on the rise, the cost to the state of treating obesity will rise as the percentage of the population that is obese grows. Unhealthy foods and drinks are seen as primary contributors to this trend, including sauces and spreads containing high levels of salt, sugar and saturated fat.

Consequently, manufacturers now offer 'lighter' options, with Heinz, Unilever and Kraft having all responded to the obesity crisis in this way. The risk to manufacturers that such changes carry is that consumers may not like the 'lighter' versions of traditional products, but that said, many health-conscious customers seemingly prefer 'lighter' options – which will likely come as good news for all involved. ■

Statistics and analysis courtesy of Key Note Market Update 2013 – Soup Market and Key Note Market Update 2013 – Sauces & Spreads. For more information, and to access these comprehensive publications in full, visit www.keynote.co.uk





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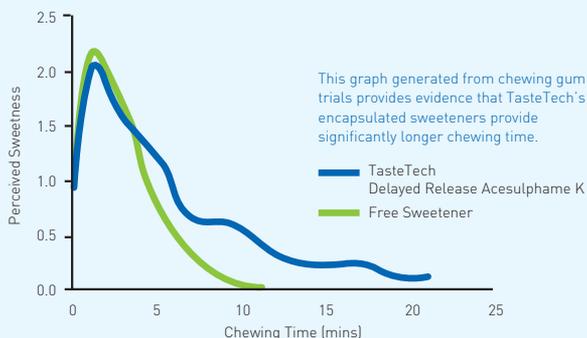
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While sweeteners have proven an effective tool for sugar replacement over the years – especially in soft drinks – a common complaint from consumers was that they could taste the sweetener, and as a result, they became hesitant to buy beverages such as diet colas. The key challenge for beverage manufacturers, therefore, has been to offer a drink without calories that offers the same taste properties as a drink containing sugar.

In a bid to overcome this issue, Nutrinova – the food ingredient business of Celanese and a supplier of sweetening and preservation solutions to beverage producers with over 50 years' experience – recently launched its Qorus sweetening system. Its first new product since 2006, it is designed to be more advanced and harmonised than other sweeteners available on the market, and the ingredient is suitable for a wide range of beverages, including carbonated and non-carbonated beverages, flavoured waters, energy drinks, juice-based drinks, flavoured milk, yogurt, powdered beverages and cocktails.

Speaking on the need to develop the sweetener, Megan Maxwell of Nutrinova explains, "There has been a big movement in reducing calories and reducing sugar – people are becoming increasingly more aware of how many calories they have. Based on consumer research we have carried out, taste is considered the most important factor, so we had to bear this in mind when developing Qorus."

Health considerations

Since its launch, Nutrinova has received a great level of interest in the sweetener, which is in application in many drinks already. Not only does it serve to reduce the 'sweetener' taste – which can, at worst, make the beverage taste artificial – it can also have long-term health benefits as it relates to tackling obesity and diabetes.

Maxwell continues, "These are global issues that are going to become more and more important, and as a result, regulations will be imposed on beverage manufacturers to ensure that they are minimising risk in these areas as much as is possible. Thus, those



The Qorus sweetening system can offer significant health advantages over traditional sugars



A sweet surprise

Nutrinova recently developed a sweetener system designed to bring authentic taste profiles to beverages. Simon Rowley visited its stand at drinktec to learn more

Soft drinks that taste like the real deal but without sugars are becoming increasingly advanced

manufacturers who have adopted Qorus can already consider themselves prepared in case sugar-free restrictions kick in, whilst being able to claim a healthier lifestyle at the same time.

"Many people, especially the over 60s, are changing their consumer behaviour, and altering their daily routine. Even in small areas, this can make big savings and increase life expectancy. Our goal is to promote the fact that if you can change things step-by-step, you can change overall consumer behaviour in the long-term and aid healthier lifestyles."

Flavoured milk and yogurts

Addressing challenges, Maxwell notes, "In addition to beverages, we also supply the sweetener for use in flavoured milks and yogurts, but dairy beverages bring different challenges; primarily because they still have lactose, and the pH properties are also different. There is completely different stability criteria, and thus pasteurisation has to be considered."

The first products in the Qorus portfolio, called Qorus Dolce, are intended for use in reduced and no-calorie beverages and dairy products such as these. The Qorus Dolce 1000/1100 line is designed for 30 to 70 per cent sugar reduction, while the 2000/2100 line is intended for 50 to 100 per cent sugar

reduction in carbonated and still beverages.

Nutrinova also offers Sunett acesulfame potassium (Ace-K), high-intensity sweeteners for a variety for end uses including confectioneries, gum, ice cream, beverages and more. There is also a line of potassium sorbate and sorbic acid products to protect against moulds, yeast and many bacteria in products with a high water content.

The taste test

At drinktec, I had the opportunity to sample the sweetener in a cola beverage, and from a blind taste test of three drinks – one of which included sugar – I was unable to detect any significant difference between them. Thus, it certainly succeeds in creating authentic taste profiles that would please consumers and beverage manufacturers alike.

In summary, Maxwell notes, "Qorus offers reduction in three key areas: in salt, fat and sugar. Food and drink manufacturers from all over the world are working to achieve this, but often, competitors are unable to provide the same taste. We are the only sweetener provider that tackles that, and to assist with this, we even brought in outside flavour expertise that we combined with our existing sweetener expertise – a unique combination that has resulted in Qorus's success."

Other application areas are currently in the pipeline. ■

Coconut powder with natural flavour

Sternchemie has introduced SternCream, a spray-dried coconut milk powder that has a multitude of uses and offers many benefits for industry and large-scale food preparation.

It can be used in wet and dry products, can easily be processed, and has a long shelf life. Its high coconut milk content gives it a characteristic mild coconut flavour, and unlike coconut flavourings and extracts, it is a natural product that is declaration-friendly.

SternCream is made exclusively from selected ripe coconuts, whose meat is first washed, minced and then pressed. To ensure the highest purity of the final product, the extracted coconut milk is doubled-filtered, and then pasteurised and spray-dried to achieve high quality.

With its low water content and oxidation stability, SternCream powder has a shelf life of at least 24 months, and it also has higher microbiological stability than coconut milk or desiccated coconut. Furthermore, due

to the gentle drying process, all of its valuable nutrients are retained – and the product does not contain any preservatives, artificial colours or flavourings.

Dr Waldemar Buxmann, food technologist with Sternchemie, explains, “We’ve tested SternCream in various products and food matrices, including qualitative and quantitative evaluation in sensory panels. This spray-dried coconut milk powder gives very positive results in sensory testing and in terms of creaminess. Its natural-



ly high fat content gives it a creamy mouth feel, especially in ice cream and pralines, or waffle fillings. The natural coconut flavour also convinced the testers.”

Cocoa powder range



At Food ingredients Europe, ADM Cocoa will highlight new additions to its deZaan cocoa powder range, including deZaan D11SQ and D-00-ZR.

The deZaan D11SQ is an intensely flavoured, dark red-brown cocoa powder that confers a unique, rich cocoa flavour in low dosages. It is designed for use in a wide range of applications, including fine bakery wares, beverages, desserts and ice creams.

D-00-ZR, meanwhile, is a reduced-fat cocoa powder with only 0.5% fat. It is able to provide the desired depth of chocolate flavour to products that are formulated to be lower in calories or very low in total fat content. ADM Cocoa will also be showcasing its range of Unicao pure origin cocoa masses. Ivory Coast Cocoa Mass is made from 100% Côte d’Ivoire bean cocoa mass, with low, medium and high roast varieties for use in premium chocolate products. The cocoa masses are available in a number of different flavour combinations, and can be tailored to suit a wide range of products.

Clean label glaze range extended

Ulrick & Short, a British owned clean label starch specialist, has announced the extension of its range of clean label non-GM glazes, to include Eziglaze C.

The Eziglaze range has now been extended for all different pastry types and is suitable for hot cross buns, sausage rolls, chilled or frozen pies, morning goods, among other applications – and can be declared as a starch or cornflour to simplify and clean up labels. Eziglaze C is especially suitable for freshly baked goods, is declarable as wheat and has increased the range of non-GM glazes. Both of these glazes and others in the range are egg and milk free, contain no additives and are microbiologically stable.

A key benefit of Ulrick & Short’s starches is that they are supplied in powder form and can be stored at ambient temperature for up to two years – a signifi-

cant advantage over both egg, milk and other commercial glazes. Simple to dissolve in cold water, the glazes are suitable for use in both craft bakeries and with automated applications. The Eziglaze range is said to be more cost-effective than other commercial glazes with increased functionality and significantly lower associated hygiene risks, and are also free from artificial colours, flavours and additives.



Tate & Lyle has introduced Pulpiz Pulp Extender, an easy-to-use modified starch that delivers strong pulp like texture – even after processing – and in for-

Pulp extender introduced

mulations with low tomato paste content.

Tate & Lyle demonstrated that Pulpiz can replace at least 25% of tomato paste in certain applications, delivering an innovative ingredient that can significantly reduce production costs in tomato-based soups and sauces without compromising taste or texture.

“Tate & Lyle leveraged its extensive starch expertise to develop Pulpiz and give our customers the ability to do more with less while maintaining taste, texture and meeting production goals,” says Werner Barbosa, global platform leader texturants at Tate & Lyle. “Because Pulpiz can be easily incorporated into typical manufacturing

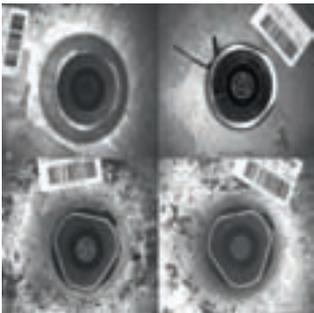
processes, it offers an innovative and effective solution for manufacturers dealing with rising recipe costs and the volatility of the tomato paste market.”

The new pulp extender can be used to partially substitute tomato paste or add pulpiness in convenience applications, including soups, pasta and barbecue sauces.

Vision system for keg lines

A vision system developed by Olmec UK is being used to check that the correct beer kegs are present in the correct orientation on the filling lines at Molson Coors brewery.

The vision system inspects the special filling tube in top of the keg, known as the spear, to determine whether or not the keg can proceed for sterilisation and filling.



Around 2.5% of line stoppages are caused by attempts to fill the wrong keg types, but the introduction of the vision system has cut this to 0.5%.

A GigE Vision camera with red ring light illumination is positioned above the filling line to image the tops of the kegs as they pass by. Since there are several different keg diameters, the system is set up to record an image every 100 ms, ensuring that an image of the spear will be recorded regardless of the barrel diameter.

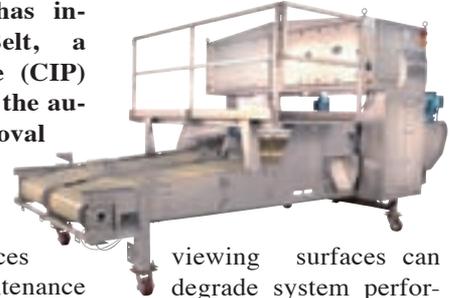
The images are evaluated using a combination of a grey scale classifier system and statistical critical dimension measurement based on Sherlock software.

New clean-in-place system

Key Technology has introduced CleanBelt, a new clean-in-place (CIP) system for ADR 5, the automatic defect removal system for potato strips.

This automated CIP system reduces sanitation and maintenance labour, minimises the cost of replacement parts, and helps maintain the optimal performance of the ADR 5 system to accurately match product quality to specifications.

“Starch buildup is a persistent problem on potato strip production lines, especially on equipment with moving parts because starch hardens over time and on inspection equipment where build-up over



viewing surfaces can degrade system performance,” says Marco Azzaretti, advanced inspection systems product manager at Key Technology.

“We’re addressing that with CleanBelt – it’s the first clean-in-place system for an ADR belt. Having a consistently clean belt helps the ADR operate at peak performance, and we expect CleanBelt to save processors 125 to 200 labour hours per year, per ADR system.”

Flat top chains for beverage industry

Chain specialist iwis has introduced hardened, wear-resistant stainless steel flat top chains.

Sold under the Flexon brand, the chains can be used for conveying bottle crates and returnable bottles, and are surface-hardened with a special process to reduce wear and maintenance costs.

Flat top chains consist of plates that are connected to each other with single and double hinged joints. This design allows the construction

of chains with a width of up to 305mm for both straight-line and curved tracks, onto which the products can be directly placed. Crates and reusable bottles place an exceptionally high strain on the chains, and foreign matter – such as sand, glass, string and other dirt – also increase chain wear. Consequently, the chains need to be replaced more frequently throughout the plant’s service life, with the resulting replacement chain and additional maintenance

costs cutting into production profits.

With its Flexon flat top chains, iwis believes that it now has a solution to this problem: the combination of stainless steel and a hardened surface of up to 67 HRC unites the advantages of carbon steel and cold-rolled stainless steel in a single material. The result is rustproof, exceptionally wear-resistant chains. Iwis can supply hard-



ened stainless steel versions of all flat top chains currently in use, so that existing plants can be retrofitted with the new chains without needing to be modified in any way.



Loma Systems has introduced its X⁵ x-ray inspection system, which incorporates new features that can bring product integrity to the busiest of food packing lines.

Quick-clean inspection machine

Responding to user demands for ease of cleaning and reduced maintenance, it has been redesigned to deliver maximum uptime in round-the-clock manufacturing sites whilst identifying and rejecting the smallest contaminants.

With retailer compliance demanding the highest levels of cleanliness, the X⁵'s rounded, sloping surfaces mean that food particles and washdown droplets cannot accumulate on its surfaces (unlike flat surfaces which can leave areas of potential contamination). Additionally, impermeable seals have been

added to the x-ray cabinet to prevent water ingress.

The system is powered by a Windows based operating system, which reportedly delivers accurate product control at lines speeds of up to 120 metres per minute. The X⁵ also benefits from Adaptive Array Technology (AAT) which dynamically tailors resolution, depth and scaling to give strong detection performance. It eliminates the need to specify the diode array pixel size as the X⁵ will adjust to give the best detection performance for the product.

Low-fat frozen yogurt

Northern Ireland's first low-fat frozen yogurt has been launched by Morelli, an Italian ice cream producer.

The new frozen yogurt has a fat content of just 4% and has been developed by the company to meet the growing trend towards healthier desserts, particularly among women and young people.

To develop the new product, the ice cream maker has teamed up with artisan dairy business Clondeboy Estate Yoghurt. As a result, Morelli is now using Clondeboy's popular Greek-style yogurt and has added two new flavours – strawberry and Amarena cherry – which are marbled through the product.

The frozen yogurt has been launched this month in the company's scoop cabinets in ice cream parlours and other stores across Northern Ireland to gain feedback from customers.

Morelli also has plans to make frozen yogurt more widely available and is exploring opportunities for a product using a sugar replacement. The company already supplies a diabetes-friendly ice cream using fructose as a sugar replacement.



Chestnut beer

Lancaster Brewery, one of the fastest growing breweries in the country, has created the first chestnut beer to be brewed and bottled in the UK.

Mr Trotters Great British Chestnut Ale, with an ABV of 4%, was recently launched in a bottle in Selfridges and Booths, and is now available to pubs in cask.

Under development by Lancaster Brewery master brewers for over a year, the new ale blends roasted sweet chestnuts with malted Maris Otter barley. The chestnuts give a nutty creaminess to the brew, and their honied taste balances the spiciness of the English Cascade and Bramling hops.

Sizzling hot sauces

Heinz is rolling out a packaging re-design for its range of Heinz Hot Sauces that it says offers a vibrant new look.

First launched in October 2012, the three-strong range of sauces taps into the growing trend of spicy food. The packaging re-design aims to widen the appeal of the popular sauces.

The new labels, which feature on 150ml bottles, seek to bring flavour to the forefront. The Hot Sauces description focuses on the names of the chillies and the flavour properties inside each bottle: 'Peppery Habanero', 'Smoky Chipotle', and 'Tangy Jalapeno'.

The distinct products have an RRP of £1.49 and new labels are on shelves now.

Muesli with a twist

Cuckoo Bircher muesli has been launched with the intention of offering consumers a different take on traditional muesli with new flavour combinations and contrasting, complementary textures.

New flavours include apple and cinnamon spice, elderflower and cranberry, dark chocolate and sour cherry, mango and coconut, and peach and madagascan vanilla.

Featuring berries, dark linseeds and swirls of fruity compote, Cuckoo believes

that the bold colours and layers of natural ingredients in its muesli will ensure that the product stands out on the shelf.

With less than 300 calories per 200g single-serve pot, the new muesli is wheat-free, high-fibre and low-GI, and is intended for consumption either for breakfast, as a snack, or as a wholesome dessert option. Smaller pots of 90g have also been designed for the travel market.

Co-founders Lucy Wright and Anna Mackenzie comment, "We thought the

on-the-go breakfast and snack sector needed a fresh new brand that was as much a treat for the taste-buds as it was for your body. Bircher muesli is a classic Swiss breakfast dish and we were keen to give it a fun, young and modern twist with recipes reflecting our taste for bold, interesting flavours, designed to be eaten at any time."

The muesli is produced in Britain with home-grown jumbo oats and West Country yogurt, and retails at £2.49 per pot.



Expanded mustard offering

French's, the American Mustard brand, is expanding its offering across UK supermarkets.

Asda will be stocking a smaller 170g jar of French's Classic Yellow mustard with an RRP of £1.39 in 309 stores and Tesco will be listing a 170g jar of French's Smooth and Spicy American Mustard in 298 stores, at the same price.

French's is renowned for its Classic Yellow American Mustard Squeezy product (397g) that already sits within the condiments aisle of Tesco and Asda stores as



well as its Squeezy Smooth and Spicy American Mustard (340g) which is also stocked across Asda stores nationwide.

Chloe Agache, brand manager at Bespoke Foods says, "This is an exciting move for the French's brand as we become more of a player within the mustard set.

"With a larger product range, smaller pack formats and lower price points, we hope to draw new consumers to the American mustard segment and appeal to more traditional mustard shoppers who are not currently purchasing our products."

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Two-tier brand strategy

Needlers, the UK's leading specialist hygiene and protection consultant to the food industry, is bringing a number of its best-selling food industry products under its two in-house brands, Reldeen and Pro-Fit. This is part of a continuous drive within the business to deliver a service to its customers which is tailored to the exact needs of food manufacturers.

This new branding strategy will allow customers to easily select a product which suits them, knowing that Needlers has developed them in-line with the changing demands of the food industry.

Tel: (+44) 1482 467 520
www.needlers.biz



24/7 Access to test certificates

Moody Heat Exchangers has launched an online web-based portal to allow customers to access their plate heat exchanger integrity test certificates and service reports 24 hours a day, 7 days a week.

Moody Heat Exchangers knows that quick and easy access to test certificates and service reports is important to customers in the hygienic processing industries when faced with internal and external quality audits. This secure, web-based portal allows customers to log on using a secure password to access vital quality information about their plate heat exchangers.

Tel: (+44) 1777 701141
www.moodydirect.co.uk



'Floor to wall' system

Flowcrete UK has launched a total 'floor to wall' system, which combines state-of-the-art products and best in class service to deliver a seamless finish for the food and drink sectors.

With over 30 years' experience in the sector, Flowcrete floors are trusted to deliver fit for purpose systems, designed specifically for food and drink processing and packaging environments.

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Tel: (+44) 1270 753000
www.flowcrete.co.uk



AJA Selector Scale half vine tomatoes

Aja has delivered several 'profit saving' weigh packing systems to UK tomato packers. Packing half vine tomato to fixed weight with maximum efficiency and accuracy with minimum Give Away & Waste is particularly challenging and difficult.

Constant re-adjustment of the vines to get the best weight is a common problem, directly impacting on overall profitability.

The Aja Selector Scale removes the guessing to achieve best weight and minimum give away while adding a level of efficiency and speed.

Tel: +44 208 892 8900
www.aja-uk.com



Tecan Cavro components

LCTech, a supplier of products and methods for sample preparation and analysis, has been using Tecan Cavro components for many years and has incorporated a Cavro Omni Robot and Cavro XLP Pump into its latest Freestyle sample preparation workstation. Dr Uwe Aulwurm of LCTech explains, "We wanted a modular solution that combined a general purpose liquid handling system with a range of different processing devices. The Cavro Omni Robot suited our needs, providing a robust instrument which could be easily modified to access individual processing modules."

Tel: +1 408 953 3100
www.tecan.com/components



Tantalus launched by Catalyst

World-leading retail security tag manufacturer Catalyst has entered the consumer market with Tantalus, the first lockable alcohol security device designed for consumer use, both in and out

of the home. Restrict children and teenagers' access to alcohol or prevent expensive malt whiskies or fine wines from accidental consumption.

Tantalus fits most standard alcohol bottles and can be adapted for use in hotels and bars and at public events.

RRP of £8.99 for a single pack and £24.99 for a triple pack.

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www.tantalus.uk.com



New 3 in 1 Drymeister-H

The new 3 in 1 Drymeister-H is the latest multiprocessing unit from Hosokawa Micron and offers energy efficient and speedy grinding, classifying and drying operations in one compact unit. It

combines intensive dispersion with high performance classification to deliver stable product quality particle size and moisture content and is applicable for drying slurries, solutions, wet powder and pasty cake.

Compared to traditional spray or rotary dryers, it offers energy savings of 50-70%. With options for ceramic faced wear parts and a specially designed screw feeder for cakey material, the Drymeister-H has applications across a range of industries.

Tel: (+44) 1928 755100
www.hosokawa.co.uk



H & A Order another Makro Labeller

H & A Prestige Packing of Chorley have placed yet another order with Makro Labelling for a new bespoke line that is being installed later in the year for high end spirit miniatures. Lee Tayburn, Manufacturing Manager at H & A said, "Makro have become our preferred labeller supplier. All their machines have proved to be of a very high standard and the innovative ideas that are built in to the Makro Labellers have already saved us thousands of pounds on both spare and change parts.

For more information please contact Richard Portman via richard@makro-labelling.co.uk
Tel: (+44) 1283 712720
www.makrolabelling.it



Artisan 2 Tortilla solution

Packaging innovator Dempson Crooke Ltd, has introduced a new stockline of film-lined paper bags to support the Artisan 2 Tortilla insert from Anson Foodservice. This is the second time Dempson Crooke has worked with Anson on an initiative for the food-to-go sector - the first time saw the launch of a paper bag to support the Artisan 2 insert for sandwiches. The addition of the Artisan 2 Tortilla bag extends the Artisan range and makes it widely available to the foodservice market, including smaller, independent cafés and sandwich shops. The Artisan 2 Tortilla insert and bag have been specifically designed to package filled wraps and tortillas.

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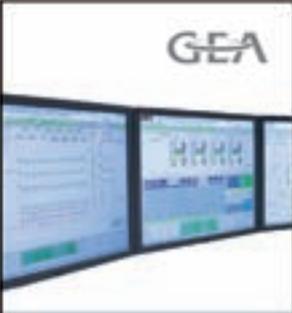
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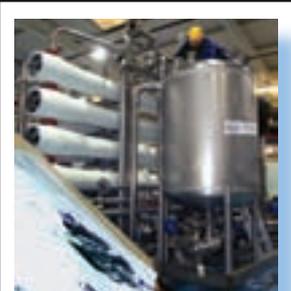


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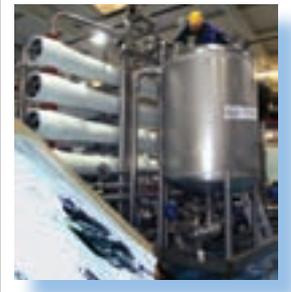
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Date: 19-21 November

Location: Messe Frankfurt, Germany

Website: www.foodingredientsglobal.com**Hot topics in food microbiology**

Date: 26-27 November

Location: Campden BRI, Chipping Campden, UK

Website:

www.campdenbri.co.uk/food-micro-conference.php**Takeaway Innovation Expo**

Date: 28-29 November

Location: Olympia, London, UK

Website: www.takeawayexpo.co.uk

DECEMBER 2013

Taste Trends 2013

Date: 3 December

Location: Leatherhead Food Research, Surrey, UK

Website: www.leatherheadfood.com/taste**Future Beverage Innovation**

Date: 9-11 December

Location: 200 Aldersgate, London, UK

Website: www.fi-beverageinnovation.com**Dubai Drink Technology Expo**

Date: 16-18 December

Location: Dubai Convention & Exhibition Centre, Dubai, UAE

Website: www.drinkexpo.ae

FEBRUARY 2014

World Tea & Coffee Expo 2014

Date: 6-8 February

Location: Bombay Exhibition Centre, Mumbai, India

Website: www.worldteacoffeexpo.com**The British Frozen Food Conference and Exhibition**

Date: 20 February

Location: Chesford Grange Hotel, Warwickshire, UK

Website:

www.bfff.co.uk/category/business-conference/**Gulfood 2014**

Date: 23-27 February

Location: Dubai World Trade Centre, Dubai, UAE

Website: www.gulfood.com**Packaging Innovations 2014**

Date: 26-27 February

Location: NEC, Birmingham, UK

Website: www.easyfairs.com/piuk_8728/

MARCH 2014

Food & Drink Technology Africa

Date: 18-19 March

Location: Gallagher Convention Centre, Johannesburg, South Africa

Website: www.fdt-africa.com**Nutraformulate**

Date: 18-19 March

Location: NMM Exhibition Centre, Birmingham, UK

Website: www.nutraformulate.co.uk**Food & Drink Expo 2014**

Date: 24-26 March

Location: The NEC, Birmingham, UK

Website: www.foodanddrinkexpo.co.uk

MAY 2014

Vitafoods Europe 2014

Date: 6-8 May

Location: Palexpo, Geneva, Switzerland

Website: www.vitafoods.eu.com**Interpack 2014**

Date: 8-14 May

Location: Dusseldorf Fairgrounds, Dusseldorf, Germany

Website: www.interpack.com

Have a diary item you'd like to share with our readers?

You can upload your event and logo to our website

www.foodanddrinktechnology.com/events-diaryor send to simon@bellpublishing.com



“Denmark is a food lab for trends”

Kasper Fogh of the Food Organisation of Denmark talks food culture and looks at what the future holds

Describe yourself in three words

Foodie, storyteller, curious.

How did you get to where you are today?

Through song and dance, really. I used to work in restaurants when I was in university. I loved cooking and the intensity of a professional kitchen, and I got to eat well and learn the craft. Later, we used to go out and cook for people to make extra cash. When I later worked in politics, all I could ever publish in my own name was something completely other than on politics or communication, so I got a side-job as a food critic at my old paper. Working with food now is a combination of the agenda-setting skills I learned in politics and journalism, and systematically eating way better than I could actually afford in my youth.

What's your biggest professional achievement?

In this job, it's being a part of the international interest in the food thinking of the Nordic region – it's very much being a part of a movement; an intuition that there are things to be moved, and that we can inspire the global food culture.

What is your pet hate?

Really cheap food. Sorry – I hate cheap junk that leaves you oblivious to how it was made, where it was grown, who made it, or if there was ever a human being in the other end. It is not for me.

Give us a positive prediction for the food industry over the next 12 months

Organic will continue to rise globally, and will pick up again in the UK. People will start to discover species and varieties in any product – it will no longer be a tomato, it will be a San Marzano tomato; it will no longer be potatoes, but a King

Edward potato. People will drink less, but it will be more expensive. The growth will be in the top or higher ends of the market, and it will be much cooler to deal in foods. The people who make foods will gain social status – it will just be cooler to feed people, because there will be more stories to tell, more diversity, more new products – all about adding flavour and quality to more people's lives. Isn't it cool?

What do you consider to be the most important attributes for a leader?

That she or he has a competent vision of the future, and that they understand – truly understand and appreciate – the kind of product that they make. I don't understand leaders in the food industry that don't have a passion for meat, dairy, veggies or beers, or whatever they make. How can you develop products or maintain a good product without deeply understanding what you make?

Who do you most admire?

In food? Rene Redzepi of Noma, because he changed my country – nothing in food here will be the same again. He inspired a new curiosity: I saw Nordic seaweeds in the supermarket here the other day – and we never used to eat that stuff. I also admire Norman Borlaug for giving the world high yield wheat-plants and bringing millions out of starvation. I admire the wine makers of Burgundy for keeping it real and resisting the temptation for change, and I admire people like Michael Pollan for speaking truth to all that new age weirdness in food: it should be fun and delicious to eat.

Which people/organisations or companies are the ones to watch right now?

I am very interested in how big companies respond to a growing high-end market. In Denmark, Carlsberg, Arla and Danish Crown have recently introduced high end,

Which words do you most overuse? "Needs salt!"



gourmet products to match a growing demand for taste. And I believe they are trend makers here: Denmark is a food lab for trends. How will big food follow the changing market? How will the likes of Pernod Ricard and Unilever try to find the profits and brand value in a growing high-end market?

If you weren't in your current position, what else might you be doing?

Manufacturing consent for a politician.

Tell us something about yourself that few people know

I never actually finished my education – I was too restless. Sorry. If I go back, it will be to study history.

Any vices?

Food and drink, what do you think?

What single thing would most improve the quality of your life?

I regret that I only have one life to give to the food revolution – nah, just kidding – more time with my kids, definitely. It's politically correct I know, but I'm one of these soft Scandinavian men.

How do you relax?

Travel – most often food related. I was just in Campania to hunt for buffalo mozzarella, tomatoes and splendid scenery. Before that, I was in Istanbul to try out new Anatolian cuisine. My favourite thing is picking wild mushrooms in Sweden.

How would you like to be remembered?

As anything but boring or a bad host.

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