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Contents

April 2017

6 The ultimate caterer's guide to special diets — Part 1

Every caterer needs to be able to accommodate special dietary requirements — are you au fait with what this entails?

13 New urine test reveals what you have really been eating

No more lying about your diet — your doctor can now find out the truth through a urine test.

16 Dietary guidelines don't work. Here's how to fix them

The time has come for us to rethink the purpose of dietary guidelines, what they contain and how they deliver their message.

20 Traceability and the IoT

The Internet of Things is changing how foodservice providers do business.

28 The ultimate caterer's guide to special diets — Part 2

Gluten-free and dairy-free/lactose intolerance were covered in Part 1. Part 2 covers vegetarian, paleo and FODMAP diets.

39 Fructose: fact versus fiction

Consumer confusion is rife when it comes to sweeteners. Now Tate & Lyle spills the beans on fructose.



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www.foodprocessing.com.au/magazine



Why you need to visit foodpro 2017

Do you want to know about the latest technology and innovations in food processing, packaging, science and technology? All of this will be on show at foodpro 2017.

Every third year since 1967, this iconic event has given the Australian food and beverage industry an opportunity to meet face to face with specialist suppliers and compare an extensive range of ingredients, packaging solutions, as well as food processing machinery and technology all in one location.

From 16–19 July this year, foodpro will be occupying two floors of the new International Convention Centre Sydney in Darling Harbour. There will be seven dedicated zones showcasing the latest innovation and products across: processing equipment, packaging, plant equipment, food handling and logistics, ingredients, food science and technology as well as drinks and liquid foods to explore.

Expert speakers will be covering the latest trends in the industry such as traceability, food safety and hygiene in a series of free seminars.

And if you need more you can also attend the Australian Institute of Food Science and Technology's annual convention which is co-locating with foodpro. Visit www.aifst.asn.au/annual-convention/aifst-50th-anniversary-convention-17-18-july-sydney to find out more.

foodpro is not only an opportunity to find out how to decrease your operating costs and increase your efficiency but also an opportunity to network with industry professionals and connect with your peers involved in the:

- meat industry
- dairy industry
- beverage industry
- packaged foods
- food processing equipment
- food plant equipment
- ingredients
- food science & technology
- food packaging

This event is for small manufacturers too. foodpro and FIAL have launched the Supply Chain Integrity Zone, a new initiative focusing on solutions available for small manufacturers who produce prepackaged goods for sale to the consumer. Companies across the various stages of the supply chain will be represented, allowing visitors to discuss with suppliers the end-to-end solutions best suited for their business. The zone will also include a series of seminars covering the latest technology, capabilities and insights.

The zone will feature companies that offer solutions specifically for smaller manufacturers who produce less than 10,000 units a week with a focus on areas including: materials in, processing integrity, packaging integrity, shipping and receivables and quality management solutions for traceability.

Prepared Food and *What's New in Food Technology & Manufacturing* will be at Stand P20 on Level 1. Come and visit us to get a dancing cow stress ball.



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The ultimate caterer's guide to special diets



Ensuring your clients have delicious food that's catered to their needs provides enormous benefit to your business but leaving someone hungry because you have not catered to their dietary requirements is the exact opposite. Currently 1 in 5 Australians live with an intolerance or allergy, which means every caterer will need to accommodate special dietary requirements on a regular basis.

Make sure everyone has something to eat by checking their special dietary require-

ments and then using this guide to make sure your meeting, office lunch or corporate event is full of plenty of food for everyone.

As corporate catering experts, Order In provides literally thousands of meals across a vast array of cuisines and special diet concerns. The company has put together this comprehensive guide so that you can learn more about the most common intolerances and allergies, and what foods or ingredients cause them. They have even included some helpful tips and meal ideas to ensure everyone has plenty to enjoy.

Gluten-free

Gluten is a combination of proteins that's most commonly found in wheat, barley, rye and their familial grains. It commonly adds elasticity and a chewy texture to bread and wheat products, as well as aiding the rising process in baking.

Breads, cakes, biscuits and pastries

Flour contains gluten, which means any products that use the ingredient also contain gluten. Breads, cakes, pastries and a vast majority of baked goods are all a 'no no'. While there are of course a range of gluten-free products available, if they're not labelled, it's a better idea to avoid them.

There are easy substitutes however, with gluten-free versions of all regular flour products available. Nut flours like almond or hazelnut are used for sweeter options like friands and small cakes, while a variety of other flours, seeds and grains are used in gluten-free breads.

Texturally, gluten-free cakes or breads are more dense than their regular counterparts. Gluten-free bread is particularly different as it doesn't rise as much as normal bread, which often results in a small, compact loaf.

Pasta

Pasta is another major gluten heavy food. However, just like bread, there are suitable gluten-free options that make the most of other grains and substitutes like corn, or rice flour.

Regular store-bought pasta tastes almost identical to regular pasta, with only slight variation to the flavour depending on the primary flour used. Fresh pasta, however,

tastes quite a bit different and many purist Italian restaurants aren't likely to cater for it.

Noodles

Many noodles, including ramen, soba, hokkien and udon, are made using wheat in combination with other primary ingredients like egg. Rice noodles on the other hand contain no gluten and can be used as a substitute in a wide variety of dishes. 100% buckwheat noodles can also be used.

Couscous

Couscous is another side dish that needs to be avoided if you're catering for gluten-free people. While often used as a rice replacement in Moroccan cuisine, it's more commonly found mixed in with salads like tabbouleh. Corn is the most common gluten-free replacement for couscous. It tastes different, but works in all the same dishes and tastes great.

Cereals

As you'd expect, many cereals contain wheat and a variety of grains and seeds which all contain gluten. Furthermore, many cereals, like Cornflakes for example, are manufactured in a way that introduces wheat into what would have initially been a gluten-friendly product. Therefore, even if the primary ingredients seem obvious from the name on the box, it's not always safe to eat. Numerous gluten-free versions of popular cereals exist, as well as a range of specially made cereals, muesli, and granola.

Imitation meat

Imitation meat isn't regularly found in corporate catering menus, but is a protein substitute for vegetarian diets. In order to thicken the vegetables and solidify the patty, wheat is used as a binding agent along with ingredients like tofu.

Beer

Sorry beer lovers! While the vast majority of alcoholic drinks are gluten-free, as the distilling process removes the harmful proteins, beer retains them. However, the amount of gluten depends on the style of beer, and many people with an intolerance can digest lagers, pale ales and pilsner style beers without risk. Coeliacs though will need to steer clear. There are gluten- »



free beers available, including the O'Brien brewery which is 100% gluten-free.

Soy sauce

Soy sauce is another tricky one. Found in an enormous variety of Asian cuisines, soy sauce does contain wheat and can be harmful depending on your level of tolerance. Like beer, many people with an intolerance can consume regular soy sauce in a meal without triggering a negative response. Gluten-free soy sauce is easily found in a supermarket and is a pantry must for if you're an Asian cuisine fan!

What's the difference between an intolerance and being coeliac?

As someone that's responsible for organising food for a group of people, it's really important to understand the difference between someone who is gluten intolerant, and someone that is coeliac.

An intolerance, often referred to as non-coeliac gluten sensitivity, is when the body has difficulty digesting gluten. It causes gastrointestinal issues which often include bloating, stomach cramps, diarrhoea and vomiting. Many people describe the reaction as one akin to food poisoning, where the body goes into overdrive trying to get rid of the substance from your stomach in whatever way it can. While there's no "cure" for gluten sensitivity, a change in diet is often all that's required to avoid the symptoms. Medication is currently being developed, however, that aims to aid the body with digestion meaning that someone with a gluten intolerance will be able to consume products containing gluten without side effects provided they swallow the tablet first.

There is no clinical test for a gluten intolerance, instead a diet change experiment is the primary way of identifying any issues. This usually involves avoiding gluten for a period of 2 weeks and monitoring any change or reduction in symptoms.

Coeliac disease on the other hand is an autoimmune condition where the proteins in gluten attack the lining of the stomach and other intestinal tissue, particularly the villi. Villi are the tiny finger-like tissue that lines the intestine and is primarily responsible for nutrient absorption. Unlike gluten sensitivity, there is no tolerance to gluten and consumption can result in serious side effects.

If a coeliac digests gluten, they'll encounter many of the issues cited above, including bloating, stomach pain and cramping and diarrhoea. Furthermore, they can include insomnia, rashes, mouth ulcers and many coeliacs experience difficulty concentrating. These symptoms can last for days. While this may not sound too terrible to some, the

primary difference is that every exposure to gluten creates long-term damage to the intestinal tissue that can't be repaired. Gluten-intolerant people do not suffer any long-term effects.

Non-coeliacs will often have a certain tolerance to gluten that their bodies can digest before it causes stomach issues. This can vary greatly from person to person, but it's also a cumulative total, so consuming multiple foods or beverages that contain low levels of gluten will add together to create a greater amount of it in your system. If you're planning catering, then the level of tolerance will be an unknown to you and it is always recommended to order from a gluten-free menu just to be on the safe side.





Currently 1 in 5 Australians live with an intolerance or allergy, which means every caterer will need to accommodate special dietary requirements on a regular basis.

Dairy-free and lactose intolerance

Dairy is any product that's produced with the help of our slow-moving, grass-eating friends, cows. Cow's milk is used for cheese, yoghurt, cream, milk, and of course any products created with those products. Just like with gluten, there is both an allergy and an intolerance to dairy products. An allergy to dairy products is an autoimmune response and can be fatal, while an intolerance is gastrointestinal reaction to lactose.

What's the difference between a dairy allergy and lactose intolerance?

People that have an allergy to dairy products have an autoimmune reaction to one

or more of the following proteins found in dairy products: whey, casein, and albumin. As with most allergic reactions, the symptoms are immediate and fast moving. Symptoms of a dairy allergy include bloating, vomiting and diarrhoea, but can also result in eczema (dry skin), and respiratory issues. Muscle pain, headaches, and joint stiffness are also common effects of an allergic reaction.

If someone you're catering for has a dairy allergy it's critical you understand what you need to do in the event of a reaction. As respiratory issues can arise, the potential for a life-threatening reaction like anaphylaxis exists. Treating this reaction via an epinephrine injection (often known as an epipen) is not uncommon and at least somebody present must know how to administer it if required.

Somebody with an allergy to dairy must be incredibly strict with their diet and not consume it in any form or quantity.

Another common reaction to dairy products is a lactose intolerance. Lactose is a sugar present in cow and other animal milks. Lactase is an enzyme that breaks down and digests lactose in your body. An intolerance occurs when there isn't enough lactase present in the body to properly digest the lactose from those beverages and foods. Symptoms of an intolerance are similar to that of gluten and commonly include bloating, diarrhoea, vomiting, stomach cramps, and other gastrointestinal issues.

What foods contain dairy?

Unlike gluten, avoiding dairy is a lot more straightforward. Any product that contains milk products is a no-go. Cheeses, yoghurts, milk, ice cream, chocolate and creams like thickened or sour. There are a few tricky products that contain dairy though.

- Wine and beer: Milk proteins are used in the fining process of making wine and therefore can be cause for an allergic reaction. While wine does contain lactose in that protein, many people can handle small volumes of wine. There are

dairy-free wines available, along with certain craft beers like stouts that may also contain milk proteins and lactose. If you're scanning for brands that offer dairy-free versions, you may have better luck searching for vegan products.

- Canned tuna: Some canned tunas have the caseinate protein present and may trigger an allergy. If you're serving a salad or sandwiches that include canned tuna, it's important to read the ingredients thoroughly to ensure it is safe.
- Gravy, sauces and sweeteners: Many instant mix products like gravies, sauces, sweeteners or artificial creamers contain milk powders that are used as a thickening agent.
- Lactose-free products: Lactose-free products are cow's milk products that have had the lactase enzyme added in order to circumvent the effects of lactose. If you have a dairy allergy or are serving food to someone who is, lactose-free products are absolutely not suitable. Anyone suffering from a lactose intolerance can consume these products however.
- Animal milk — sheep and goat's milk: Contrary to what some believe, other animal milk like that from a sheep or goat does contain just as much lactose as that of cow's milk.
- Potato chips: While potato doesn't contain any milk products, the flavourings used often have milk products added. Always check the packets as not all varieties are dairy-free.
- Soy products: Soy provides the vast majority of milk alternatives, however in order to achieve textural similarity to products like cheese, milk proteins are sometimes used. Imitation meat also contains milk proteins. While soy products should be fine for anyone with a lactose intolerance, dairy allergy sufferers should avoid them.

Continued page 28 >>





Fine Food Australia expands with new zones, drinks event

Fine Food Australia is returning to Sydney in 2017. In addition to its new home at the International Convention Centre in Darling Harbour, the event has announced several additions to the program, with the biggest news being the launch of a brand new event, Commercial Drinks, which will co-locate with Fine Food Australia. This will bring together Australia's \$16 billion liquor industry with the \$170 billion foodservice and food retail industries, creating the largest Fine Food Australia ever staged.

Fine Food Australia aims to showcase the latest in food, natural, organic and free-from products, bakery equipment and products, dairy, meat, food packaging, catering equipment, hospitality equipment, international food, beverages, coffee roasters, and retail, fit-out and design technology.

The addition of the Commercial Drinks Show marks the introduction of the country's only event totally dedicated to the on-premise liquor industry and will help those in industry capitalise on the ongoing consumer demand for unique, handcrafted alcoholic beverages.

Catering for the growing market for healthy alternatives, a new Organics Zone will focus solely on organic products, sitting alongside the Natural/Free-From Zone on the show floor. Another new zone, the Fit Out and Design Zone, will help food businesses keep up with design trends and show visitors the latest in restaurant, cafe and store design.

Meanwhile, at the Start Up Zone, a curation of young and innovative businesses will display new, unique products to the visitors at Fine Food Australia.

Regular features returning to Fine Food Australia in 2017 include the free line-up of business sessions at the Talking Food Stage, where industry insiders and leaders will share their knowledge and talk about trends and issues. Also returning is the Devondale Cafe Stage, the Innovations in Patisserie Stage, the ACF Culinary Challenge, the Official Great Aussie Pie Competition, the much loved Bake Skills Australia and the Live Bakery.



When: 11–14 September 2017

Where: International Convention Centre Sydney, Darling Harbour

Registration: Opens in March 2017

Fine Food Australia and Commercial Drinks are strictly trade-only events. Children are not permitted.

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Multivac has available a range of packaging solutions for extending the shelf life of fresh fruit, vegetables and salads, convenience meals and fresh-cut products.

The R 105 thermoforming packaging machine is an entry-level model for producing MAP and vacuum packs. Suitable for enabling fruit, vegetables and salads to remain fresh for longer without the use of preservatives, the standard upper web is perforated during the packaging procedure to meet the particular requirements of the product and produce an equilibrium atmosphere (EMAP) within the pack.

The fully automatic T 300 H traysealer is suitable for packing fruit and raw or processed vegetables with a high product protrusion. The compact model is designed for small and medium-sized batches and can be built as a multitrack machine. Electric drive systems for the tray transport, lifting unit and film trim winder ensure that it has an energy-efficient method of operation.

The semiautomatic T 250 traysealer has mobile castors for flexibility and offers a variety of individual equipment options including flexible die design, automatic tray drawer, precise cutting systems for inside or outside cut, and a vacuum pump that can be integrated in the machine.

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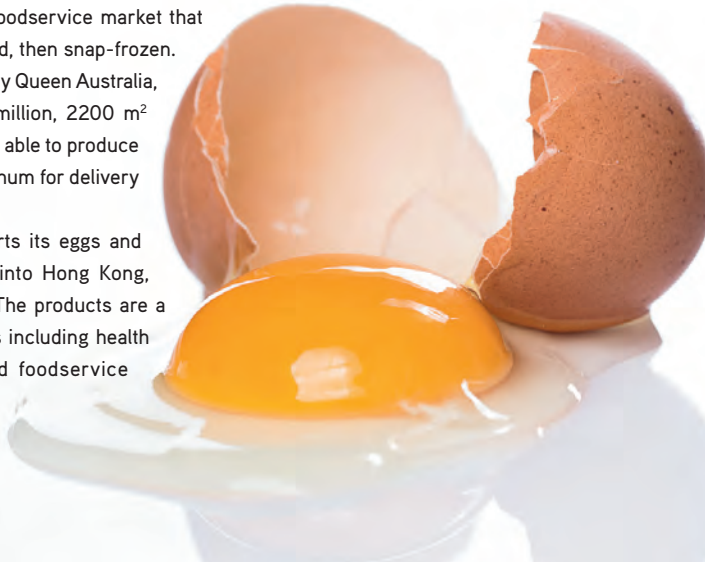
Sunny Queen targets foodservice market with new production facility

One of Australia's biggest egg producers, Sunny Queen Australia, has opened a production facility that will deliver egg products created using pioneering technology.

The head office and production facility of Sunny Queen Meal Solutions in Carole Park, Queensland, will produce the company's range of ready-to-serve egg dishes for the foodservice market that are fully cooked or pasteurised, then snap-frozen.

The managing director of Sunny Queen Australia, John O'Hara, says the \$40 million, 2200 m² plant is the only one of its kind able to produce 1100 tonnes of product per annum for delivery around Australia.

Sunny Queen Australia exports its eggs and value-added meal solutions into Hong Kong, Macau and the Middle East. The products are a staple for commercial sectors including health and aged care services and foodservice companies catering to large groups, such as the defence force, mining companies, workplace cafeterias and airlines.



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Electric forklift trucks

Mitsubishi's FB-TCB series 3-wheel electric forklift trucks provide clean and robust power for the logistics and warehousing industries.

The FB13-20TCB has an ultra-compact design and excellent manoeuvrability, making it suitable for confined working areas such as narrow warehouse aisles and containers. The forklift is equipped with a 48 V battery, efficient AC Power traction and hydraulic motors and regenerative systems.

All forklift trucks in the series are equipped with the AC Power control system which integrates travel, hydraulic and electric power steering functions.

The trucks are suitable for indoor applications where noise, pollutants or particulate contamination are undesirable. They also come with a higher IPX4 rating, which means the forklift and its systems are protected against water spray from all directions and angles, making them safe to operate in rain.

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Oregano investigation: Hoyt's Food receives \$10,800 penalty

The fallout from the ACCC's oregano investigation continues, with Hoyt Food Manufacturing Industries Pty Limited paying a penalty of \$10,800 following the issue of an infringement notice by the Australian Competition and Consumer Commission.

Hoyt's Food is a distributor of oregano and supplies to major retailers across Australia. The ACCC issued the infringement notice because it had reasonable grounds to believe that Hoyt's Food had made false or misleading representations in contravention of the Australian Consumer Law, after it tested the composition of a sample from a batch of the 25 g net variety of 'Hoyt's Oregano Leaves rubbed'.

The ACCC considered that by including the statements "Oregano Leaves" and "Oregano has a strong aromatic camphor like scent" on product packaging, Hoyt's Food misrepresented that its oregano product was only oregano, except for trace ingredients, when testing commissioned by the ACCC indicated that the product contained approximately 50% olive leaf.

"Suppliers of food products must ensure the accuracy of representations about the ingredients on labelling and any other packaging," ACCC Commissioner Sarah Court said.

Upon being notified by the ACCC of its concerns, Hoyt's Food took steps to change its supply arrangements and indicated it would test its oregano products in the future.



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The payment of a penalty specified in an infringement notice is not an admission of a contravention of the Australian Consumer Law. The ACCC can issue an infringement notice where it has reasonable grounds to believe a person has contravened certain consumer protection laws.

New urine test reveals what you have **really** been eating



© Stockphoto.com/Christine Glade

Been lying to your doctor (and yourself) about what you have been eating? You won't be able to get away with this for much longer as a new urine test is being developed that will reveal the truth. It's not up to revealing three glasses of shiraz, a handful of chips and a plate of nachos yet, but it is getting there.

Researchers from Imperial College London, Newcastle University and Aberystwyth University have developed the test that measures the biological markers in urine created by the breakdown of foods such as red meat, chicken, fish and fruit and vegetables.

The five-minute test also reveals how much fat, sugar, fibre and protein has been consumed. The test is still in

its early stages and the scientists now hope to refine the technology by testing it on larger numbers of people outside research settings.

Evidence suggests people inaccurately record their own diets and under-report unhealthy food while over-reporting fruit and vegetable intake — and that the likelihood of inaccuracies in food diaries increases if a person is overweight or obese. »



Evidence suggests people inaccurately record their own diets and under-report unhealthy food while over-reporting fruit and vegetable intake

Around 60% of people misreport what they eat to some extent according to Professor Gary Frost, senior author of the study from the Department of Medicine at Imperial College London. “A major weakness in all nutrition and diet studies is that we have no true measure of what people eat. We rely solely on people keeping logs of their daily diets — but studies suggest around 60% of people misreport what they eat to some extent. This test could be the first independent indicator of the quality of a person’s diet — and what they are really eating,” said Frost.

In the study, published in the journal *Lancet Diabetes and Endocrinology* and conducted at the MRC-NIHR National Phenome Centre, the researchers asked 19 volunteers to follow four different diets, ranging from very healthy to very unhealthy. These were

formulated using World Health Organisation dietary guidelines, which advise on the best diets to prevent conditions such as obesity, diabetes and heart disease.

The volunteers strictly followed these diets for three days while in a London research facility, throughout which the scientists collected urine samples in the morning, afternoon and evening.

The research team then assessed the urine for hundreds of compounds, called metabolites, produced when certain foods are broken down in the body.

These included compounds that indicate red meat, chicken, fish, fruit and vegetables, as well as giving a picture of the amount of protein, fat, fibre and sugar eaten. They also included compounds that point to specific foods such as citrus fruits, grapes and green leafy vegetables.

From this information the researchers were able to develop a urine metabolite profile that indicated a healthy, balanced diet with a good intake of fruit and vegetables. The idea is this ‘healthy diet’ profile could be compared to the diet profile from an individual’s urine, to provide an instant indicator of whether they are eating healthily.

The scientists then tested the accuracy of the test on data from a previous study. This included 225 UK volunteers as well as 66 people from Denmark. All of the volunteers had provided urine samples, and kept information on their daily diets.

Analysis of these urine samples enabled the researchers in the current study to accurately predict the diet of the 291 volunteers.

Professor Elaine Holmes, co-author from the Department of Surgery and Cancer at Imperial, added: “We are hoping to make this test available to the public within the next two years. The idea would be to collect a urine sample at home and deliver it to a local centre for analysis. We envisage the tool being used by dieticians to help guide their patients’ dietary needs, or even by individuals who are interested in finding out more about the relationship between diet and their health.”

Professor John Draper, co-author from Aberystwyth University, added: “The future challenge is to apply the technology developed in this laboratory study in a community setting and objectively monitor diet in the home. The teams in Aberystwyth and Newcastle have been doing just this and the results are looking very promising.”

The work, Objective assessment of dietary patterns by use of metabolic phenotyping: a randomised, controlled, crossover trial, by I. Garcia-Perez et al, was funded by the Medical Research Council and the National Institute for Health Research and published in the journal *Lancet Diabetes and Endocrinology*.



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Dietary guidelines don't work.

Here's how to fix them

Duane Mellor* and Cathy Knight-Agarwal**

Dietary guidelines come under a lot of fire. They have been accused of not being based on evidence, not being environmentally sustainable and being out of touch with nutritional science. They also fail to change people's eating habits, as shown in Australia and the US.

The time has come for us to rethink the purpose of dietary guidelines, what they contain and how they deliver their message.

As part of this, we need to think about how the public views dietary guidelines (and other health guidelines) so they become

relevant. Hopefully, then people will be more likely to follow them.

If we don't, we risk investing more research time and taxpayers' dollars into producing documents many people seem to dismiss.

Are dietary guidelines just too hard to meet?

There is good evidence from dietary surveys that only 4% of Australians meet the recommendations made in dietary guidelines, particularly when it comes to eating enough vegetables.

So, should we make dietary guidelines easier or at least have more achievable

targets so we don't feel we are constantly "failing"? For instance, rather than pushing just the "5+2" a day (five serves of vegetables and two of fruit a day) as the only goal worth aiming for, we should start with a positive message encouraging people to eat more fruit and vegetables than they're eating now. We could do this by breaking this down into achievable steps, for instance, recommending one more piece of fruit today and two more tomorrow.

Nutrition "experts" also often say "everything in moderation" when recommending a balanced or healthy diet. This may have merits. But clearly, some people cannot limit,





Rather than mainly focusing on avoiding discretionary foods high in added fat and sugar, we should focus more on the positive message of recommending non-discretionary food

restrict or consume high-sugar and high-fat foods in moderation, despite Australian guidelines suggesting you should only eat them sometimes and in small amounts. In Australia, more than one-third of our energy intake comes from these so-called discretionary foods.

In any case, what does an occasional piece of chocolate cake mean? Is it once a week, a month or a year? How big a slice?

Perhaps we need to enjoy these foods, not feel guilty about eating them or seeing them as a treat, instead slotting them into our routines in smaller amounts and less frequently.

Meanwhile, when it comes to avoiding discretionary foods, our brains set us up for failure. Our brains are hardwired to seek out high fat, high sugar food and drink. This stimulates production of dopamine, the “happy hormone” that helps control the brain’s reward and pleasure centres. Put simply, we like the way it feels when we eat these foods so want to come back for more.

Are we addicted to some foods?

In 2014-15, a staggering 63% of Australians aged 18 years or more were overweight or obese. This suggests most Australians are addicted to high-fat, high-sugar foods.

Like addictions to nicotine and alcohol, should health professionals say moderation fails and abstinence of some foods is the only way? Or is dietary intake far more complicated?

Some people do exceptionally well abstaining, for instance media personality Peter FitzSimons writes about his year without sugar and alcohol.

But some suggest restrictive dieting can lead to binge eating, increased weight over time and eating disorders. Some people can, and maybe even should, include a moderate amount of discretionary foods in their diet, without feeling guilty, to reduce the likelihood of developing an “unhealthy relationship” with food.

So, being flexible (or strict) with diet may be the ideal for some but catastrophic for others.

Nutrients or food?

In Australia the first government dietary guidelines appeared in the 1980s as a 20-page booklet. In its most recent version in 2013, the National Health and Medical Research Council filtered 55,000 pieces of evidence and documents to settle on more than 1,100 in a 210 page technical report.

As well as the complexity of the evidence base, the type of recommendations in dietary guidelines have changed over the years. Once, dietary guidelines focused on nutrients we should eat or avoid, for instance the type of fat or sugar.

But our attitude to individual nutrients changes. For instance, the 1980s fat-heart-health idea that high fat intake was bad for your heart has been widely questioned; recently sugar has been labelled as public enemy number one.

We are still recommended to eat or avoid some nutrients today, such as lower fat dairy, a point critics challenge in light of recent evidence.

We should continue this shift away from *nutrients* to *foods*. After all, we don’t eat single nutrients; we eat foods.

This shift should really go much further. Rather than mainly focusing on *avoiding* discretionary foods high in added fat and sugar, we should focus more on the positive message of *recommending* non-discretionary food. The World Health Organization calls them minimally processed foods, which include vegetables and fruit along with dairy produce, lean meat, fish and alternatives (pulses and eggs) and wholegrain cereals.

Ultimately, we need to shift the focus to look at dietary or food patterns, as seen in the recent Brazilian and to a certain extent the US dietary guidelines. For example, the guidelines from Brazil include concepts of enjoying shopping, sharing cooking and

being cautious about advertising, going far beyond stating nutrient goals.

This should, ultimately, also be the future for Australian dietary guidelines. This is not only because we eat foods not nutrients, but because food is culturally more important than the chemicals it contains.

What (and who) are dietary guidelines really for?

We also need to be clear what and who dietary guidelines are for.

Do Australia’s dietary guidelines aim, as their name suggests, for a healthy diet for all or a guide to prevent weight gain? A simple review of the technical document accompanying the guidelines finds more than 100 references to “obesity”, suggesting the latter. In fact, the word “obesity” appears four times more often than the words “underweight” and “malnourished” combined.

Dietary guidelines are meant for the general public, therefore should not be aiming to treat disease, only looking to reduce the risk of developing illness.

Rather than just focusing on obesity, we should really try and focus on dietary approaches to maintaining health for an ageing population. For instance, we could provide nutritional information aimed at maintaining muscle mass as people age, a significant problem in the elderly and closely linked to ill health and death.

As we rethink the purpose of dietary guidelines, what they contain and how they deliver their message, perhaps we should ask ourselves whether people ate more healthily before dietary guidelines were introduced, and if so why.

**Duane Mellor, Associate Professor in Nutrition and Dietetics, University of Canberra*

***Cathy Knight-Agarwal, Clinical Assistant Professor of Nutrition and Dietetics, University of Canberra*

This article was originally published on The Conversation.



HelloFresh says hi to Darwin

Cook-at-home meal kit delivery service HelloFresh has expanded to the Northern Territory, with orders for Darwin and its surrounding areas now available.

Headed by former MasterChef contestant Tom Rutledge, HelloFresh launched in Australia in 2012 and is now available in NSW, ACT, Vic, Qld, SA and NT.

The first of its kind to arrive in Darwin, the service delivers quick and healthy recipes with all the required ingredients — including preportioned fresh meat, dairy, fruit, vegetables and spices — to homes once a week. Home cooks need to provide some basic pantry items such as oils, flours and condiments, but everything else is in the boxes.

Rutledge says the meal kit concept means people don't need to buy a whole jar of something like capers or a spice they won't use.

"It cuts down on food waste. The average Australian throws out around \$1036 of food per year," he said.

Tray sealing and film sealed punnets

Perfect Automation's Perfectseal is a machine, packaging and service support program which offers a transition into tray sealing for ready meals and tamper-proof film sealed punnets for the fruit market, replacing existing clamshell or flow wrapped packs.

Perfectseal LIDD is a laminated peelable pack design for the ready meals market that eliminates the need for secondary packaging, such as carton board sleeves and additional pack labelling. It is a reverse-printed duplex laminate, which uses a pressure-sensitive adhesive, allowing the layers of the laminate to be peeled from each other.

The top web of the laminated lidding film can be printed on both sides, with the surface of the film carrying marketing and nutritional information, while the reverse of the film can be printed with cooking instructions.

Perfectseal Parkscribe is a reclosable pack for fruit and vegetables, featuring a built-in PET lidding film that is strong enough to maintain product freshness and provides a quick and easy peel for consumer convenience.

The film can be heat-sealed to virtually any pack size or material and high-impact text and graphics can be printed directly onto the film, with a reclosable opening only 5 mm off the flange of the tray. This replaces the need for a label and creates a large opening aperture.

Both products are designed by UK packaging manufacturer Parksides.

Perfect Automation
www.perfectautomation.com.au

Scientists lay groundwork for expanding quinoa production

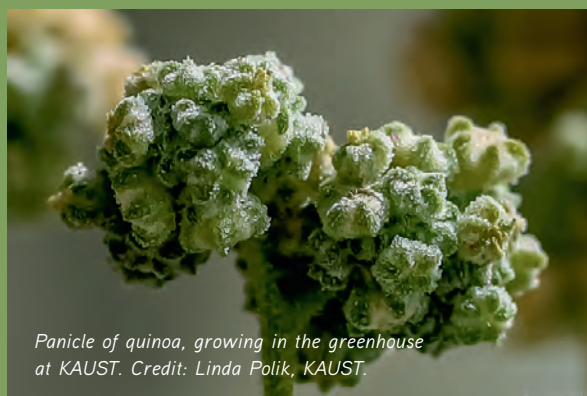
Hipster favourite quinoa (*Chenopodium quinoa*) is a highly nutritious, gluten-free, low-glycaemic-index crop that contains an excellent balance of essential amino acids, fibre, fats, carbohydrates, vitamins and minerals, and is also able to grow under a wide range of environmental conditions. However, quinoa is still an underutilised crop and breeding efforts to improve its agronomic traits are required to expand its worldwide production.

The first high-quality reference genome for quinoa has now been published online in *Nature* journal. The resource is expected to assist genetic improvement and breeding strategy efforts for quinoa.

Australian researcher Mark Tester and colleagues from the King Abdullah University of Science and Technology (KAUST) in Saudi Arabia sequenced the genome of a Chilean coastal variety of quinoa along with the genomes of additional *Chenopodium* species to characterise quinoa's genetic diversity and understand the evolution of its genome.

The authors also identified a gene that regulates the production of saponins, bitter-tasting molecules found in the quinoa seed shell, which must be removed before human consumption. The authors suggest that the genetic markers that they identified may be used to develop non-bitter or sweet commercial varieties of quinoa with reduced saponin levels.

They conclude that the findings provide the foundation for accelerating the genetic improvement of quinoa, with the objective of enhancing global food security.



Panicle of quinoa, growing in the greenhouse at KAUST. Credit: Linda Polik, KAUST.

A revolutionary mixer/tumbler



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Trolley pushed into the machine



Run the programmed cycle



Trolley with the finished batch discharged for further processing

Before and after mixing results with the GAROS GBT 300

VEGETABLES SALAD



After 1 minute

CHICKEN COATED WITH SPICES



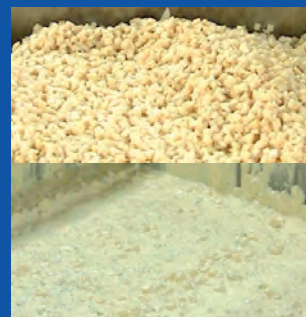
After 5 minutes

MEAT COATED WITH SPICES



After 1 minute

MAYONNAISE BASED POTATO SALAD



After 12 minutes

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globalms.com.au
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Traceability and the IoT

Jordan Anderson*

Redefine your food management across your supply chain with the Internet of Things (IoT).

The IoT is changing the way restaurants do business in 2017. Today, owners can trace a product from point of purchase to their doorstep using IoT devices that monitor its location and, more importantly, its temperature along the way. These devices are helping to keep food safe, streamline

inventory management and give owners the real-time information they need when managing multiple locations.

Monitoring food safety

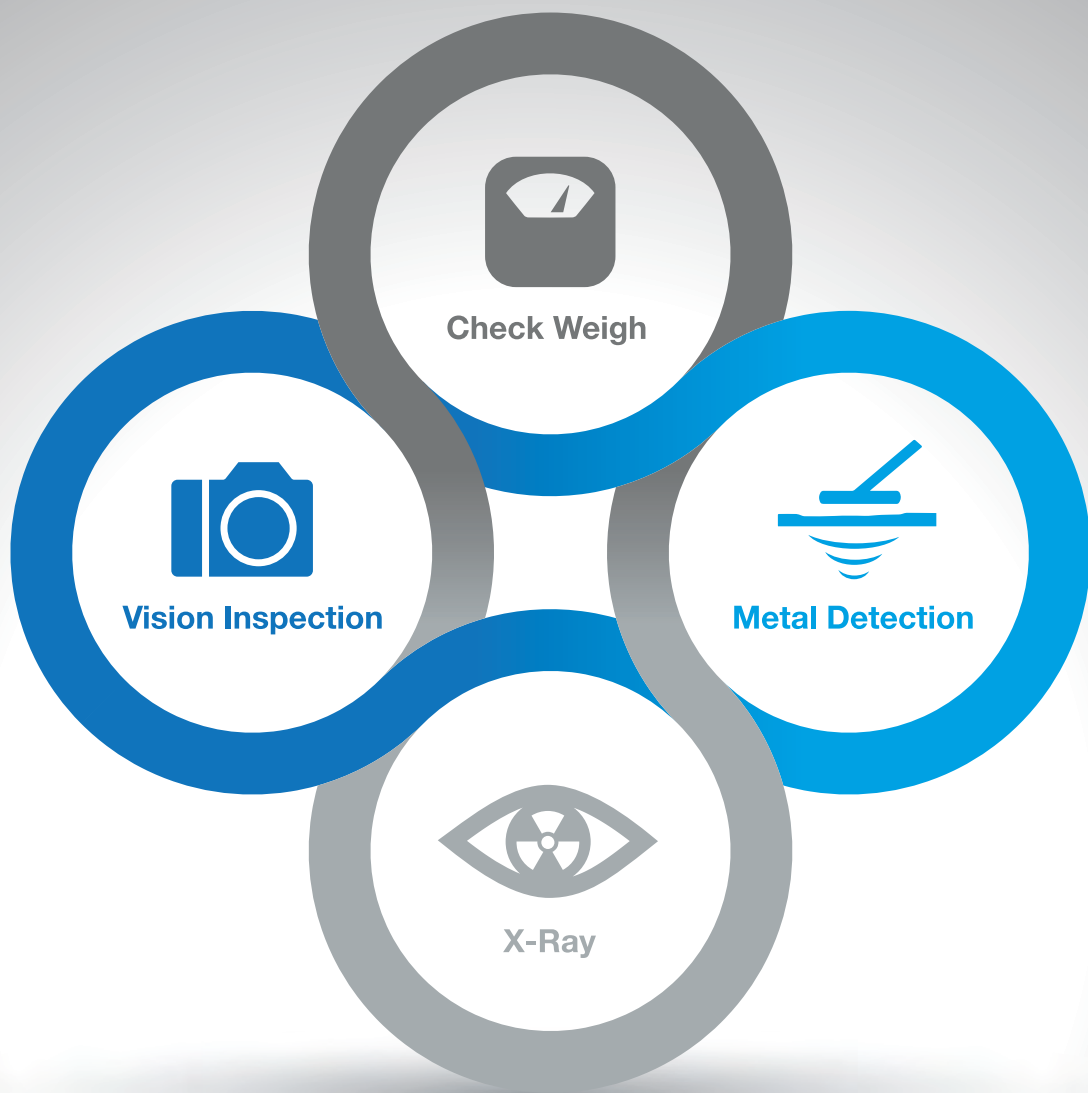
Nothing gets the attention of a restaurant owner quicker than a foodborne illness outbreak. When it happens, they need to know which products were involved.

IoT devices allow owners to track their food from the time they order to when it arrives. Even in the back of a tractor-trailer

rolling down the highway, owners can check to see the temperature of their food and have the data trail later to see when it was handled along its journey to ensure safety standards were met.

This data is especially important since the US federal government enacted the Food Safety Modernization Act (FSMA) in 2011, which intends to protect public health by reinforcing the US food safety program. Food-based businesses are now required to establish preventive control systems »



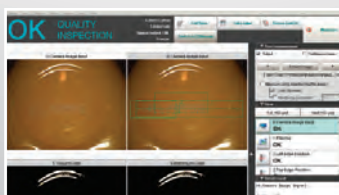


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modelled after HACCP (hazard analysis and critical control points) guidelines and prove their compliance by maintaining at least two years of documentation.

Traceability measures utilising the IoT efficiently gather and manage this information, giving owners the peace of mind they need to ensure their food has been handled properly. Not only that, but they have the data to prove it.

Inventory control and management

IoT devices help manage the cost of inventory by providing the real-time data owners need when ordering stock and forecasting needs based on their menu. The data collected by the IoT devices ensures the freshest ingredients are available for dishes and expired products are disposed of properly.

Tracking inventory from farm-to-fork prevents food waste, deters in-house theft and helps manage the cost of inventory.

IoT devices and temperature control

Utilising the IoT is a critical aspect of quality control. These devices come equipped with a temperature probe, barcode scanner and RFID infrared temperature reader that

monitors and tracks your food throughout its journey in the supply chain.

Here's how it works:

- The probe, infrared and RFID scanner track and measure the temperature of each product.
- The IoT software prompts employees to complete checklists, including temperature checks on a regular basis.
- Each time the data is collected, it is immediately uploaded to a secure cloud and accessible anytime, from anywhere.
- While in the cloud, you can customise, store, filter and analyse the information.
- Users are alerted immediately should any missed steps take place, like non-observed items, missed checklists and violations, as well as any corrective actions that address temperature concerns.

Should an issue arise, you have the detailed, automated audit trail to prove your company followed proper food safety protocol.

IoT devices can create modern dining experiences

Aside from helping streamline and manage day-to-day operations, IoT devices can create a unique dining experience for your customers.

For example, if you love seafood, some restaurants are using IoT devices to track where and when seafood is harvested. One example of this kind of initiative is the Boat-to-Plate project, funded by a grant from the Mid-Coast Fishermen's Association. This project developed an app for anglers to upload information regarding their catch. Restaurant owners are using IoT information like this to create unique dining experiences.

IoT and you

How do you plan to use IoT technology in 2017? Integrating IoT practices give your business the food safety solution needed to help keep food safe, improve supply chain traceability, manage your inventory and gain better control over your bottom line.

**Jordan Anderson is the Product Marketing Specialist for the PAR SureCheck platform. Jordan uses his background in sales and marketing to develop key messaging for SureCheck products and to discuss important issues regarding food safety, with the ultimate goal being to educate others on the dangers and consequences of improper food safety practice. To learn more about ParTech Inc, visit www.partech.com or connect with PAR on Facebook and Twitter.*

ParTech
www.partech.com

Alcohol-free natural citrus extracts

Gold Coast Ingredients has developed a line of washed, Alcohol-Free Citrus Extracts that are natural, halal-certifiable and 100% soluble in water without any turbidity. The flavours are suitable to blend into beverages, dairy products, nutraceutical applications and more.

The range of flavours includes: Lemon Extract, Lime Extract, Key Lime Extract, Lemon-Lime Extract, Grapefruit Extract, Orange Extract, Tangerine Extract, Mandarin Orange Extract.

The extracts enable the use of natural extractions while manufacturing within halal standards. Utilising this alternative extraction method also results in flavours with higher flashpoints.

Gold Coast Ingredients Inc.
www.goldcoastinc.com



Natural papers for foodservice and flexible packaging

Verso Corporation has introduced the NK Series of lightweight, machine-glazed natural kraft papers manufactured using unbleached virgin fibre. The papers will initially focus on foodservice and flexible packaging applications such as quick service restaurant and concession bags, sandwich wraps, pouches, microwave popcorn bags, and specialty tape and waxing base.

The papers will be produced with basis weights (278 m²) ranging from 6.8 to 18 kg and will feature specific performance attributes such as oil and grease resistance, low porosity for moisture holdout and high strength for demanding converting processes.

Verso Corporation
www.versoco.com

Dietitians cull 40% of frozen meals for I Love This Diet

I Love This Diet is a US-based, dietitian-designed, weight loss plan that uses low-calorie frozen meals from popular brands found in supermarkets. It advertises itself as a low-cost alternative to Jenny Craig.

Dieters are assigned one of five calorie levels between 1300 and 1850 calories per day, based on their gender and current weight. As they lose weight, their calorie level changes accordingly.

Members access a personalised I Love This Diet online food journal where they can browse and select all approved foods with a click (or a tap on their mobile device). The food journal continuously counts their calories for them and lets them know when they've met their nutritional requirements for the day. When dieters aren't in the mood for a frozen meal, they may select from one of the Salad Guide or Recipe Guide options. I Love This Diet also allows members to choose from a wide variety of tasty, low-calorie snacks from popular manufacturers.

To ensure healthy weight loss, dieters are required to eat fruit, vegetables and dairy (or dairy substitutes), as well as I Love This Diet approved breakfasts.

The company claims to be completely independent with no relationships with any of the manufacturers of the frozen meals and other foods used in the diet plan.

I Love This Diet has just reviewed more than 1000 frozen meals for its 2017 edition.

Over 400 meals from Lean Cuisine, Healthy Choice, Smart Ones, EVOL, Amy's, Kashi, Michelina's, Luvo, President's Choice, VH Steamers, Simply Balanced (Target brand) and Eating Right (Safeway, Albertsons, Vons) were approved, while more than 600 other frozen meals from numerous manufacturers were rejected for rating poorly on nutritional screens created by I Love This Diet's Registered Dietitians.

Meals were examined for calories, sodium, saturated fat and sugar content. Those that passed this initial screening were included as approved meal options in the I Love This Diet program. Each approved meal is then given a more specific nutritional grade, and rated for taste and how filling it is.

Many of the approved frozen meals and their I Love This Diet ratings can be found at: <http://bestdiettips.com/best-frozen-meals-for-weight-loss>.



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See the VIDEO @

www.backsaver.com.au

Heavy-duty scouring pads

3M's Scotch-Brite line of heavy-duty scouring pads employs advancements in non-woven material science to fight stains in commercial kitchens.

The Scotch-Brite 86 Green Scouring Pad is suitable for cleaning grease, grime and baked-on foods. The open weave construction facilitates the rinsing of clogged food particles.

The Scotch-Brite Blue Pot 'n Pan Scourer is suitable for extra-heavy-duty jobs, with the highest concentration of abrasives available. Its tough fibres and mineral abrasives can replace scrapers, steel wool and metal sponges for effective scrubbing. It is suitable for cleaning heavily encrusted pots and pans, as well as other kitchen and maintenance equipment. The open weave construction enables easy cleaning.

The scourers are HACCP certified as food-safe and suitable aids for cleaning in food handling facilities.

3M Commercial Services Div-
Cleaning & Workplace Safety
www.3m.com/au/facilities

Familiar foods bring comfort in aged care

Jonathan Gavshon works as a general manager at Group Homes Australia, a new business model providing aged care and dementia care in a group home environment. As well as his passion for aged and dementia care in Australia, Jonathan also has a love for cooking, and he merges the two by teaching Group Homes Australia carers how to cook traditional 'Aussie' food for older Australians.

The carers at Group Homes Australia (known as homemakers) come from different nationalities and cultural backgrounds. Jonathan wanted to teach them some traditional Australian recipes that he knew the residents would love, including soups, roast chicken, vegetables, fish, side dishes, salads and desserts. "I deliberately chose foods that were soft, easy to swallow but still could be plated in a very appetising way. Food becomes a very important part of an older person's routine and so making tasty, varied meals is something that can create a lot of enjoyment and pleasure. I always try and make traditional meals, because they are used to those foods. The modern foods they might enjoy once in a while, but the traditional foods give them a sense of comfort!" said Gavshon, who believes that getting involved, showing you care and are committed to doing any and all jobs is critical, particularly in a start-up business.

"I remember on my first day, my role ranged from talking about the cash-flow projections to polishing a light fitting! Both were equally important for different reasons. I think remaining nimble and flexible is an important part of having a team that can adjust and grow as the business and external environment changes — it always does!"



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Some *Salmonella* serotypes can permanently damage your DNA

While there are more than 2500 serotypes for *Salmonella*, the vast majority of foodborne illness is caused by fewer than 100 of them. The Center for Disease Control estimates that there are 1.2 million non-typhoidal *Salmonella* illnesses and about 450 deaths in the US annually, and there is no reason to assume that the statistics would be any better in Australia and New Zealand. Most cases of *Salmonella*-caused food poisoning involve a few nasty days and a promise to be more vigilant about food hygiene and safety in the future. But now it seems that the effects of some serotypes may be much longer lasting. Cornell University food scientists have found that infection by some serotypes can permanently damage DNA.

Rachel Miller, a doctoral candidate in food science, and Martin Wiedmann, the Gellert Family Professor in Food Safety, examined multiple serotypes of *Salmonella* that encode for cytolethal distending toxin (S-CDT), a virulence component for serotype *Typhi* — the cause of typhoid fever. As it happens, the *Salmonella* serotypes called Javiana, Montevideo, Oranienburg and Mississippi — common culprits in the foodborne illness world — also carry the genetic material that encodes S-CDT, the researchers found.

In human cells grown in the lab, *Salmonella* strains with S-CDT were also found to lead to hallmark signatures that indicate the presence of DNA damage. The ability to cause DNA damage may contribute to long-term disease consequences, Miller said.

"Think about possible DNA damage this way: We apply sunscreen to keep the sun from damaging our skin. If you don't apply sunscreen, you can get a sunburn — and possibly develop skin problems later in life," said Miller. "While not the sun, *Salmonella* bacteria may work in a similar way. The more you expose your body's cells to DNA damage, the more DNA damage that needs to be repaired, and there may one day be a chance that the DNA damage is not correctly repaired. We don't really know right now the true permanent damage from these *Salmonella* infections."

For a half-century, scientists have used *Salmonella* serotyping to track foodborne illness outbreaks and their sources.

"A person's damaged DNA from *Salmonella* could lead to long-term health consequences after the infection subsides, such as longer bouts with foodborne illness," said Wiedmann.

The research was shared in the journal *mBio* (November/December 2016), published by the American Society of Microbiology. The US Department of Agriculture provided funding.



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Deadly diets

Nearly half of all deaths due to heart disease, stroke and type 2 diabetes in the US in 2012 were linked to a poor diet, according to a study published in *JAMA*.

Researchers from the Tufts Friedman School of Nutrition Science and Policy in Boston developed a model using data from the National Health and Nutrition Examination Surveys, estimated associations of diet and disease from studies and clinical trials, and estimated disease-specific national mortality from the National Center for Health Statistics.

Focusing on deaths in the year 2012, the researchers examined mortality due to heart disease, stroke and type 2 diabetes and the consumption of 10 foods/nutrients associated with cardiometabolic diseases: fruits, vegetables, nuts/seeds, wholegrains, unprocessed red meats, processed meats, sugar-sweetened beverages (SSBs), polyunsaturated fats, seafood omega-3 fats and sodium.

702,308 cardiometabolic deaths occurred in US adults in 2012. Of these, an estimated 45% were associated with suboptimal intakes of the 10 dietary factors. By sex, larger diet-related proportional mortality was estimated in men than in women, consistent with generally unhealthier dietary habits in men. Suboptimal diet was also associated with larger proportional mortality at younger vs older

ages, among blacks and Hispanics vs whites, and among individuals with low and medium education vs high education. The largest numbers of estimated diet-related cardiometabolic deaths were related to high sodium, low nuts/seeds, high processed meats, low seafood omega-3 fats, low vegetables, low fruits and high SSBs. Between 2002 and 2012, as a percentage of annual cardiometabolic deaths, diet-associated mortality declined for polyunsaturated fats (-21%), nuts (-18%) and SSBs (-14.5%), remained relatively stable for wholegrains, fruits, vegetables, seafood omega-3 fats and processed meats, and increased for sodium (+5.8%) and unprocessed red meats (+14%).

Automatic tray sealer

The Multivac T 300 is an automatic tray sealer. The tray transport system employs chain-guided driver rods on both sides and is simple and flexible in its usage. With at least two loading positions on the infeed line, the tray sealer enables ergonomic loading of filled trays. As an option, empty trays can also be loaded by an automatic tray denester and inserted in the infeed line. Prefabricated rigid, sealable trays are used as the packaging material and are sealed with reel-fed top films. For the processing of a register printed film, a register mark control system is available.

The tray sealer produces the required atmosphere for the product in the pack by means of evacuation and gas flushing. This is achieved with high sealing pressures and precisely definable sealing temperatures. The economical use of inert gases in the production of MAP packaging is an advantage of the tray sealer technology.

The compact tray sealer is suitable for a wide spectrum of trays and packs products of any type automatically, hygienically and economically.

Multivac Australia Pty Ltd
www.multivac.com.au



Salt substitute has 35% less sodium than table salt

Croatian food processor Podravka has announced the development of a salt replacement ingredient with 35% less sodium than regular table salt.

Supisol can be used as salt in production of soups, ready-made meals, meat products, dressings, sauces, condiments, food seasonings, spices or as table salt for home usage.

The product consists of a combination of 3 different salts (sodium chloride, potassium chloride and potassium-magnesium citrate) and is suitable for vegetarians, vegans and those following halal and kosher diets. It is also gluten-free and lactose-free, and has no GMO, no flavour enhancers, no artificial colourings, no artificial aromas and no preservatives.

How much tuna is too much?

Recently, the US Food & Drug Administration (FDA) together with the Environmental Protection Agency (EPA) issued advice regarding fish consumption for women who are pregnant or may become pregnant, breastfeeding mothers and young children. The information is aimed at helping those groups eat sufficient amounts of healthy fish, while keeping mercury consumption within safe limits.

However, a subsequent statement issued by the Center for Science in the Public Interest (CSPI) contradicts some of the advice given by the FDA/EPA. CSPI Senior Scientist Lisa Lefferts said that following the advice from the government on mercury and tuna could result in pregnant women or small children consuming more mercury than is safe for developing brains. The CSPI statement advises that pregnant or nursing women and parents of small children should choose fish that are low in mercury and high in omega-3 fatty acids, like salmon and sardines. They suggest avoiding albacore (longfin) tuna altogether and consuming tuna labelled as 'light tuna' very sparingly — no more than 56 g per week for women and 28 g per week for kids.

This differs from the government advice which lists light tuna in the 'best choices' category, with a recommended weekly intake of 2–3 servings (226–340 g for adults and 113–170 g for young children). Under the official recommendations Albacore tuna is categorised as a 'good choice', with a recommended intake of 1 serving/week (113 g for adults, 56 g for children).



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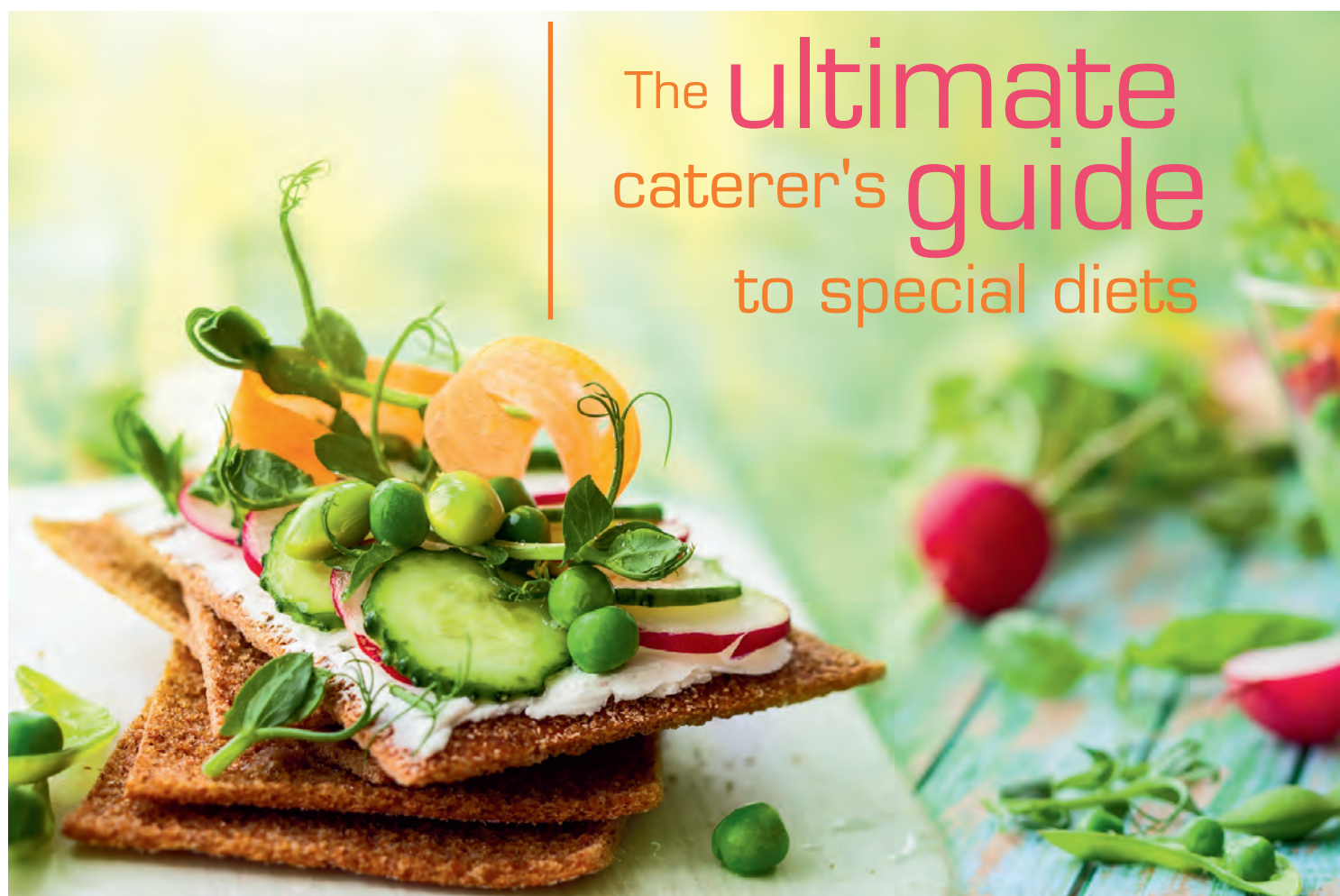
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The ultimate caterer's guide to special diets

Vegetarian

There are approximately 2.1 million adult vegetarians in Australia as of 2016. This means that the likelihood of catering for one or more is a near certainty. Unlike the allergies and intolerances mentioned thus far, a vegetarian diet is more a preference and voluntary restriction of certain foods.

A vegetarian is someone who doesn't eat meat but will eat foods made from animals. The moral reasoning is that it's OK to consume foods from an animal that don't result in the slaughter or mistreatment of that animal. Due to this reasoning, vegetarians will also generally consume only animal products that have been sourced ethically.

Vegetarian-friendly foods are therefore far easier to define and to cater for. Sticking to vegetables and meat substitutes are the simple rules to follow.

Many vegetarians choose to eat fish, which is common enough to have created its own name — pescetarian. While there's not usually a clinical or allergy-related reason for this, it's

essentially where you draw the line morally or purely a preference to avoid some meat and not others.

Vegan

Unlike a vegetarian, vegans will not consume any animal products, including meats and products derived from animals. While vegetarians choose to avoid meat often due to the treatment of the animals, vegans continue that line of thought but are against the animals being bred and placed in a captive environment for the sole purpose of exploiting their lifestyle for the creation of food. Due to its moral reasoning, veganism is a diet preference, not an allergy or intolerance to these products. However, a vegan diet can be a good option for someone with a dairy allergy as it is very safe to consume vegan-friendly foods.

Avoiding meat products are an easy solution, however ensuring that an entire meal is vegan friendly can be more complex as there are many animal products used in the manufacture of foods and beverages that you perhaps wouldn't expect. Milk products

for example are often used in binding and flavouring agents used in things like potato chips and some soy products.

As a significant amount of processed foods contain milk or animal products in some way, whole foods are often the best solution for someone sticking to a vegan diet. This ensures that there aren't any hidden ingredients in the foods.

When catering for vegans, it's important that your options be classed as vegan and that the ingredients are clearly specified so as to avoid these processed foods and your clients' or colleagues' disappointment!

Paleo

Sometimes referred to as the 'cave-man diet', paleo is a diet preference, not a diet based on allergy or intolerance. The diet revolves around the consumption of high fat and protein and moderate carbohydrates. The moniker comes from following a diet that the cavemen would've consumed, being unprocessed foods that can be harvested or hunted.



A paleo diet excludes all cereal grains and legumes. Barley, wheat, oats and kidney and pinto beans are a few examples from Paleo Leap of the foods that are avoided. Soy is also avoided.

Avoiding the majority of processed foods is the key here. Confectionary like lollies that have significant amounts of sugar and preservatives are a no go. This includes a wide variety of not just sweets, but fruit juices and a significant percentage of packaged products will likely be avoided.

Dairy is a no-go as well. We've covered dairy extensively above, but as paleo is a choice, it's up to the individual as to where they draw the line on the exclusion of dairy. Given that processed foods, which make up a substantial volume of junk foods, are excluded you'll just need to cut out cheeses, yoghurts and animal milks as well.

In a similar way to veganism, a paleo diet can leave gaps in nutrition needed for your body, particularly with the absence of dairy products. Calcium and vitamin D deficiencies

are a strong possibility and supplements are likely a necessity for someone following a strict paleo diet. High consumption of saturated fats and protein can also cause issues with the heart and kidneys.

FODMAP

A low FODMAP diet is based on a study from Dr Susan Shepherd and expanded on by the Monash University that details the effects of diets on people that suffer from gastrointestinal issues like irritable bowel syndrome (IBS).

FODMAP is an acronym for the short chain carbohydrates and sugar alcohols that appear in foods, either naturally or as an additive. It stands for:

- Fermentable
- Oligosaccharides
- Disaccharides
- Monosaccharides
- And
- Polyols

These sugars ferment in the large bowel and can cause irritation to people suffering

from bowel problems. These sugars include:

- Fructose is a commonly found example that exists naturally in fruits and vegetables as well as in products like soft drinks and jellies.
- Lactose, the sugar found in dairy products, is also an example of fermentable sugar and is found in milk and anything made with milk.
- Fructans are another example and are found in bread, pasta and other wheat-based products.
- Galactans are the fermentable carbohydrates found in certain legumes.
- Polyols are sugar alcohols found in stone fruits and apples.

What is incredibly interesting about a low FODMAP diet is the correlation between lactose and gluten sensitivity. As FODMAPs appear in both wheat products and products containing lactose, it may explain the reaction many people have to these foods as well as some reasoning behind the increase in reported intolerances.

A low FODMAP diet is very specific about the foods you can eat, and there can be differences between varieties of the same fruit and the quantity that would provoke a negative reaction. As these foods affect everyone differently, a person would need to follow a FODMAP diet exactly for a period of 2 weeks or more and then begin to introduce certain foods one at a time to measure the effect on their body.

Due to this, it can be difficult to cater for someone following a strict individual FODMAP diet. For this reason, many people will instead give a preference of gluten- and dairy-free that will provide the highest possibility of being safe for them to [consume] it.

Order In

www.orderin.com.au

Be careful about what's in your beef patties

When US Customs and Border Protection officers had a closer look at the box of Tastee Brand Jamaican Beef Patties that a Jamaican traveller was carrying when she arrived at New York's John F. Kennedy International Airport a couple of days ago, they didn't find any beef patties. Instead they uncovered nearly \$70,000 of cocaine in Chantal Bedward's suitcase.

Although innocent unless and until proven guilty, Ms Bedward now faces federal narcotics smuggling charges and will be prosecuted by the US Attorney's Office in the US Eastern District Court of New York.

So, if you intend travelling with some beef patties, try to ensure that they really are beef patties not a dozen duct-taped packages containing a white powder that tests positive for cocaine.



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High-output traysealer

The G 700 traysealer from Multivac packs ready meals, snacks, vegetables and fresh-cut products efficiently and economically.

Depending on the product to be packed, the traysealer can produce tray packs with or without modified atmosphere.

When producing packs with modified atmosphere, the system uses gas purging of the trays. There is no requirement to evacuate them, which means that the packaging procedure is more gentle, making it suitable for delicate products, those with crumbly constituents or foods which are hot filled.

The traysealer achieves cycle rates of up to 15 cycles/min with modified atmosphere. When packing without modified atmosphere, up to 18 cycles/min can be achieved.

The machine can run trays made of plastic, aluminium or board, as well as multichamber trays and those with a wide variety of shapes. The tray height can be up to a maximum of 110 mm.

For loading and infeed, the traysealer can be equipped with Multivac belt systems or drag chain infeed systems, in which appropriate denesters can be integrated.

Multivac Australia Pty Ltd
www.multivac.com.au

McCormick launches new range of flavours

Flavour specialist McCormick & Company is launching a range of products incorporating flavours from around the world and American specialties in a range of quick marinades, baking mixes and sauces.

The McCormick Grill Mates range comprises liquid marinades, mixes and seasonings for use on the barbecue. Flavours include: Korean BBQ Marinade Mix; Hawaiian Woodfire Grill Marinade; Smokehouse Mesquite Marinade; Garlic, Herb & Wine Marinade; Brazilian Steakhouse Seasoning; Bacon Chipotle Seasoning; and Southwest Chipotle Burger Sauce Mix-In.

Stubb's seasoning mixes are designed to flavour different types of meat with a 'Texas taste'. The range includes: Beef Marinade Mix – Soy, Garlic and Red Pepper; Texas Steakhouse Marinade Mix – Ancho Chili and Garlic; Chicken Marinade Mix – Citrus and Onion; and Pork Marinade Mix – Chili, Lime and Ginger.

Zatarain's hot sauce and baking mixes feature flavours from the American south, including Cajun Hot Sauce, Cheddar Garlic Biscuit Mix, Cheddar Jalapeño Cornbread Mix, Honey Butter Cornbread Mix, Buttermilk Biscuit Mix and Cilantro Lime Rice.



Roster management platform

With a high proportion of contingent, shift and casual employees, many of whom work for more than one employer, the task of roster management is extremely complex and labour-intensive for events and catering companies.

Rision's RosterCloud is a simple and intuitive cloud-based rostering platform for the events and catering industry.

Staff submit their availability online from their mobile device. The application enables management to quickly and easily see who is available to fill a shift. Staff then access shifts online and confirm.

Features include: staff messaging via SMS, email and online newsfeed; recurring events; tracking of employee training and qualifications; integrated timesheets and paygrades for payroll reporting.

Rision Pty Ltd
www.rision.com



Women's perceptions about genetically modified foods

Presenting 'the facts' is not enough to get women to change their perceptions about genetically modified (GM) foods.

University of Adelaide researchers held a series of focus groups looking at women's attitudes towards GM foods and found some interesting results. Even highly educated women do not engage or modify their thinking after simply being presented with the facts.

The information is affected by each woman's context. For example, plant scientists believed that lack of evidence of harm meant that GM food was safe to eat while those from health sciences were cautious about consuming GM food due to the lack of evidence of safety. Two very different positions arrived at by scientifically educated women from exactly the same information. The differences arise because of differing concepts of risk.

The results of focus groups have been published online ahead of print in the journal *New Genetics and Society*.

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Should processed meat carry a cancer warning?

US advocacy group the Center for Science in the Public Interest (CSPI) has called for a warning label on packages of bacon, ham, hot dogs and other processed meat and poultry products to inform consumers that eating those foods is associated with an increased risk of cancer of the colon and rectum (colorectal cancer).

Citing the findings of the International Agency for Research on Cancer, which concluded in 2015 that processed meat is "carcinogenic to humans", the health watchdog claims the US Department of Agriculture is obligated to require the industry to inform consumers about the risk of consuming processed meats.

"Consumers deserve these warning labels to help them make informed choices about the foods they eat," said CSPI executive director Michael F Jacobson. "Consumers who want to reduce their cancer risk may avoid processed meats or eat them much less often; other people may simply ignore the label. But without question, USDA should give people that choice."

CSPI is asking for labels of all meat and poultry products preserved by smoking, curing, salting and/or the addition of chemical preservatives to bear the warning message.



Custom wine blend for high flyers

The Duo, a wine specifically blended for consumption at high altitude, is to be served exclusively on board Virgin Australia flights in Business Class. The St Hallett wine can also be sampled in Virgin Australia lounges.

Virgin Australia and St Hallett winemaker Shelley Cox collaborated to create the customised wine that focuses on delivering balanced acidity and texture when consumed in the air. The wine was also developed to complement the Business Class menu designed by Virgin Australia's resident chef Luke Mangan.

At high altitudes, like 38,000 feet straight up, drier conditions and atmospheric pressure affect how foods and beverages taste.

The Duo is a blend sourced from both the Barossa and Eden Valleys to achieve a perfect balance at altitude. While some airlines select wines based on their characteristics at altitude, it is believed this is the first blend specifically created to suit the conditions at altitude.

"The drier air in the cabin can make it hard to really capture a wine's aroma. This is where the Eden Valley component comes in. The higher altitude of the Eden Valley means cooler conditions and creates shiraz with lovely overt floral aromas. You only need a small component to really lift a whole blend," Cox said.

"We played around with a lot of different options to ensure the acid and texture balance was right. It was a great experience and we are confident the wine will deliver in both taste and aroma on the plane at altitude."



Semiautomatic keg processing

The KHS Innokeg AF1C1, for the semiautomatic processing of kegs, is suitable for smaller barrels used in the hospitality trade and industry.

This version, which is based on the Innokeg KegBoy C2 for semiautomatic kegging, can process kegs made of both plastic and steel. Extra modules can also be added to the system. Users can precisely stipulate, record and analyse data from the filling and cleaning processes via remote control using a smartphone, tablet or PC.

KHS Pacific Pty Ltd
www.khs.com

Deadly mushroom warning

With the arrival of autumn, the Food Safety Information Council has warned people not to pick or eat wild mushrooms, as deadly death cap mushrooms start to appear in southern and western regions of Australia.

Council Chair Rachelle Williams said that the poison in one death cap mushroom, if eaten, is enough to kill a healthy adult.

"These mushrooms start to appear this time of year and have been found in the Canberra region, in and around Melbourne and even in Adelaide. They are

not native to Australia and are often found near oak trees growing in warm wet weather during autumn. The similar marbled death cap mushrooms have also been recently found in WA. While no cases have been reported in NSW or Tasmania, it may be possible that they grow there," she said.

Death cap mushrooms are difficult to distinguish from other wild mushrooms, so the council advises consumers to play it safe and only eat mushrooms that have been purchased from the supermarket, greengrocer or other reputable source. People born overseas, especially in Asian countries, should be aware that these deadly mushrooms can look like edible mushrooms that they may have gathered overseas.

The toxin in death cap mushrooms is not destroyed by cooking. Symptoms include vomiting, diarrhoea and stomach cramps and often don't appear until 10 to 16 hours after eating. These symptoms may ease for 2-3 days before a terminal phase of 3-4 days begins. Without early, effective medical intervention, people may go into a coma and die after 2-3 weeks of liver and kidney failure.

Nine out of 10 cases of mushroom poisoning in Australia result from death cap mushrooms. However, there are other wild mushrooms in Australia that, while not fatal, can make people ill with vomiting and diarrhoea. These include the yellow stainer, which resembles field a mushroom and is the most commonly ingested poisonous mushroom in Victoria.

"If you suspect you may have eaten a death cap mushroom, don't wait for any symptoms to occur but go to a hospital emergency department, taking a sample of the mushroom with you if you can. You can also contact the Poisons Information Centre on 13 11 26 (24 hours a day, seven days a week)," Williams concluded.

In the past 16 years, four people have died after eating death cap mushrooms found in the ACT. If ACT residents see possible death cap mushrooms growing in Canberra, they should report them by contacting Access Canberra on 13 22 81.



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Don't miss ProPak Asia 2017!

ProPak Asia 2017 returns for its 25th edition from 14–17 June 2017 at BITEC, Bangkok, Thailand. Now even bigger, the show has grown by 25% and will occupy new halls at BITEC.

ProPak Asia is Asia's largest international processing and packaging trade event, attracting

visitors from across Asia who come to meet world-leading companies, see the latest machines, technology and services, and learn from industry events.

ProPak Asia 2017 will feature more than 2000 exhibitors from over 45 countries, plus 19 international pavilions. The show has strong support from world-leading associations from countries including:

- **Australia:** Australian Packaging and Processing Machinery Association (APPMa); Australian Institute of Packaging (AIP)
- **Cambodia:** Cambodia Association of Food Science and Technology (CAFST)
- **China:** China World Trade Center (CWTC)
- **Denmark:** Confederation of Danish Industry — Dansk Industri
- **France:** Business France
- **Germany:** Atelier Scherer Fair Consulting GmbH (ASFC); Bavarian Ministry of Economic Affairs, Infrastructure, Transport and Technology; Bayern International
- **Indonesia:** The Indonesian Food and Beverages Association (GAPMMI); Indonesian Packaging Federation (IPF)
- **Italy:** Italian Packaging Machinery Manufacturers Association (UCIMA)
- **Japan:** Japan Packaging Machinery Manufacturers Association (JPMA)
- **Korea:** Incheon Business Information Techno Park (IBITP); Korea Packaging Machinery Association (KPMA)
- **Myanmar:** Myanmar Food Processors and Exporters Association (MFPEA); Myanmar Industries Association (MIA)
- **Philippines:** Packaging Institute of the Philippines (PIP)
- **Singapore:** Association of Small & Medium Enterprises (ASME); Food Industry Asia (FIA)
- **Spain:** Amec-Envasgraf
- **Taiwan:** Taiwan Plastics Industry Association; Taiwan External Trade Development Council (TAITRA); World Trade Center Taichung (WTCT)
- **United Kingdom:** Processing and Packaging Machinery Association (PPMA)
- **USA:** Packaging Machinery Manufacturers Institute (PMMI)

ProPak Asia 2017 will include nine industry zones — Processing Technology; Packaging Technology; Drink Technology; Pharmaceutical Technology; Lab & Test; Materials; Coding; Marking & Labelling; and Cold Chain, Logistics & Warehousing and Printing — making it easier for buyers and sellers to meet and develop great business together.

This year's exhibition will showcase over 5000 machines from across the world on 55,000 m² at BITEC. The line-up of exhibitors includes world-renowned companies ABB, Afoheat, Anritsu, BerliJucker, Bosch, Clearpack, Fipa, FPT, GEBO Cermex, Heat and Control, Heuft, Ishida, IWK, KHS Asia, Krones, Langen Group, Mather & Platt, Newamstar Packaging Machinery, Oryx Automation, Premier Tech Chronos, Sacmi Group, Siemens, Statec Binder, Swentech, Tech-Long Packaging Machinery, Tetra Pak and many more.

For more information, visit www.propakasia.com, like the Facebook page www.facebook.com/ProPakAsia or download the ProPak Asia mobile app from the App Store or Google Play.

Low lactose whole milk powder

Fonterra's ingredients business NZMP has launched a Low Lactose Instant Whole Milk Powder, which contains less than 2% lactose.

The low-lactose milk contains all the nutrients found in a glass of standard milk. Nothing is added or removed — the lactose is simply broken down into more digestible sugars for those with reduced ability to digest lactose.

The company hopes the low-lactose powder will open new market opportunities in populations that traditionally avoid lactose such as Asia, the Middle East and West Africa.

Fonterra Brands Australia Pty Ltd
www.fonterra.com



Health and wellness consumers love 'organic' and 'free from'

Foods and beverages offering health benefits are a booming market — and if they claim to be either organic or free from ingredients known to cause a reaction for people with food allergies or intolerances (or both) they are in the fastest growth market.

Consumers looking for 'guilt-free' purchases are driving sales in the health and wellness sector according to data recently released by Euromonitor International.

According to the research, organic properties lead to a 6.8% increase in the value of sales in 2016 (reaching US\$36 billion) while free-from claims increased by 7% to reach US\$32 billion.

The prime drivers in the growth of free-from are the increasing demand for lactose-free and hypoallergenic options. By 2021 this will become the fastest growing category in Asia Pacific, Latin America, Europe and North America with an average of 5.4% growth, generating an additional US\$9.5 billion in sales.

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The east-west nutrition divide

A survey of consumer attitudes to diet and nutrition has found that respondents from Asia are far more likely to be interested in healthy eating than those in the western world. Commissioned by British PR agency Ingredient Communications, researchers asked 600 consumers in Asia and 700 in the Western Hemisphere, plus Australia and New Zealand, about their views on a range of nutrition issues. Nearly seven in 10 of the Asian consumers surveyed (68%) said they were 'very interested' in nutrition and healthy eating, compared with just 38% of westerners.

Levels of interest in nutrition were highest in India, where 82% said they were very interested in healthy eating, and in the Philippines (71%). But in some western countries interest in a healthy diet was low. Only 36% of respondents in the UK and 26% in Australia said they were very interested in nutrition and healthy eating, although in the US the figure was as high as 71%.

The findings highlight the extent to which views about diet and health differ between east and west. For example, two in five (39%) respondents in Asia considered eating less meat to be important to achieving a healthy diet. But only 25% of westerners felt the same way. Accordingly, a vegetarian or vegan health claim is nearly three times more likely to influence a consumer to buy a product in Asia than it is a consumer in the west (28% vs 10%, respectively).

Richard Clarke, director of Ingredient Communications, said: "When it comes to healthy eating, east and west are worlds apart, even in this era of globalisation. This emphasises the importance of 'glocalisation'. Nutrition businesses need a clear strategy that taps into worldwide megatrends, but must remain agile enough to adapt their approach in individual markets as required."

Neil Cary, founder of Asia Opinions, who conducted the research, said: "Food tends to play a more central role in Asian culture than in the west, and this is reflected in attitudes to diet and nutrition."



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Mitigate business risks by automating temperature monitoring

Peregrine Corporation is using the Internet of Things and data analytics to monitor temperature compliance in its 260 On The Run (OTR) and Smokemart & Giftbox stores.

Previously, Peregrine's site team manually logged the temperature of appliances and their operating specification roughly every four hours, but now sensors handle it automatically, saving time and reducing the risk of error.

Data and IoT technology also help reduce Peregrine's enterprise risk, which is predicated on its complete compliance with Australian Food Safety Standards. Local rules and regulations dictate that any errors in the control of food-storing appliances result in stock being destroyed to ensure the health of customers, so ensuring appliances remain operational within specified tolerances is essential for Peregrine's operations.

This groundbreaking pilot, which is currently available at Peregrine's OTR Hillbank store, was developed in collaboration with Microsoft and Empired. It works by leveraging IoT sensors to automatically log the temperature of product storage systems, freeing staff for more value-added tasks, reducing the chance of equipment failures and delivering greater operational transparency. Sensor-collected data is then aggregated into the Microsoft Azure IoT Suite, where it is analysed for key staff with easy-to-understand visuals via Power BI.

By analysing the sensor-collected data using Microsoft Power BI, the team is able to assess the health status and where they require resources. Again, this results in a more efficient allocation of resources and pre-empts systems failures — a benefit that will only be amplified when the proof of concept rolls out to additional stores. For Peregrine, this pilot is one component of a wider innovation vision, spearheaded by its CIO, Brendon Hore.

According to Hore, "The South Australian convenience sector is extremely competitive and it's our belief that our commitments to investment in technology improve the efficiency in our site operations and, ultimately, improve the customer experience."

"When we started the project, we had two clear goals in mind. We wanted to make operational site processes simpler for our team. We pride ourselves on being a place where our great people get to do great things. Already, our staff are able to spend their time being analytical, rather than being data entry operators."

"The second goal of the project was to ensure that compliance to food safety standards was optimised with the most efficient use of resources. Again, it's early days, but the reduction in manual labour is already resulting in decreased human error."

Sundee Rehill, practice lead, business intelligence, Empired, led the deployment of the initial solution. He said: "The Azure IoT Suite is fundamental to the solution. With 30 sensors in the initial pilot, and moving forward where there may be hundreds or thousands of sensors, having a cloud-based central repository to manage the data is essential."

Following its initial store rollout, Peregrine is already saving many hours of labour and reducing organisational risk. Peregrine are evaluating expanding the solution to an additional 5–6 stores and ultimately to replicate the deployment across its entire network of over 130 convenience stores, achieving the major economies of scale that the Internet of Things, data analytics and cloud promises.

Oprah Winfrey teams up with Kraft Heinz on ready meals range

The Kraft Heinz Company and Oprah Winfrey have announced a joint venture called Mealtime Stories, which will produce a range of ready-to-eat refrigerated products across multiple categories.

The mission for the new venture is to make real, nutritious products more accessible to everyone, with 10% of profits to be donated to charities aimed at eradicating hunger.

Further details will be announced later in 2017.

Nutrition analysis tool for restaurants and foodservice

Edamam has released a tool to help restaurants, catering and food delivery companies label the food they make for allergens, diet appropriateness and key nutrient content.

The Nutrition Wizard Pro analyses any recipe or ingredient list in less than a second, using powerful natural language processing algorithms. Features include saving a prep recipe as an ingredient for another recipe, substituting ingredient suggestions and a recipe builder, which allows chefs to get immediate feedback as to the nutrient profile of a recipe they may be developing.

The Nutrition Wizard Pro provides unlimited instant nutrition analysis and diet labelling for a monthly subscription fee.

Control of *Listeria monocytogenes* in RTE — FDA draft guidance released

The FDA has released a draft guidance on the control of *Listeria monocytogenes* for companies manufacturing, processing, packing or holding ready-to-eat (RTE) foods.

The guidance is intended to help companies comply with the CGMP and PCHF requirements of 21 CFR part 117 with respect to measures that can significantly minimise or prevent the contamination of RTE food with *L. monocytogenes* whenever an RTE food is exposed to the environment prior to packaging and the packaged food does not receive a treatment or otherwise include a control measure (such as a formulation lethal to *L. monocytogenes*) that would significantly minimise *L. monocytogenes*.

Fonterra sees golden opportunity for white butter

Fonterra has developed a new white butter product to meet growing demand from manufacturers in the Middle East market.

The team from Fonterra's Research and Development Centre has collaborated with its global ingredients business NZMP to meet the needs of manufacturers who prefer white butter as a processing ingredient for their food products.

Although Fonterra's butter is known amongst Middle East consumers for its golden appearance thanks to grass-fed cows, a niche segment of manufacturers has traditionally sourced butter from grain-fed cows which produce dairy products with a pale colour.

Fonterra Dairy Foods Category Director of NZMP Casey Thomas said Fonterra responded to customer needs through an innovative manufacturing process that enabled the reduction of the golden appearance of the butter without impacting quality.

"While our yellow butter already sees great success in this market, we saw an opportunity to tap into this new area for customers to use in a variety of applications such as spreadable jar cheese, recombined cream cheese, and could soon be used in ice-cream," he said.

The product is now available in Saudi Arabia, Iran, Bahrain, Turkey and Pakistan. Future plans include launching the product in Egypt, Algeria, Morocco and South America.



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Baby food brand embraces HPP technology

Western Australian company Fresh Produce Alliance is utilising high-pressure processing (HPP) to produce its baby food brand Born Pure, as well as its Avovita range of avocado-based foods and drinks, capitalising on the method's ability to preserve the flavour, aroma, colour and nutrition of food.

"The innovative technology of HPP has allowed us to create value-adding products that are high in quality and freshness without missing out on convenience," said Jennie Franceschi, managing director of Fresh Produce Alliance.

A HPP machine surrounds packaged foods and beverages with up to 600,000 kPa of cold-water pressure, equivalent to stacking the pressure of 75 tonnes on a plastic bottle. By applying this method of pasteurisation, HPP delivers high levels of food safety and integrity without the negative side effects to nutritional value, natural flavour, texture and colour. The intensity of the cold water effectively rids the produce of harmful bacteria while keeping the nutrients intact.



Study finds potentially harmful chemicals in fast food wrappers

A peer-reviewed study has analysed the prevalence of highly fluorinated chemicals in fast food packaging in the United States, with concerning results.

Researchers tested more than 400 samples from 27 fast food chains. The paper wrappers, paperboard and drink containers were analysed for a class of chemicals called PFASs (per- and polyfluoroalkyl substances), also known as PFCs. These highly fluorinated chemicals are widely used in an array of non-stick, stain-resistant and waterproof products, including carpeting, cookware and outdoor apparel, as well as food packaging.

"These chemicals have been linked with numerous health problems, so it's concerning that people are potentially exposed to them in food," said Laurel Schaidt, an environmental chemist at Silent Spring Institute and the study's lead author.

Reporting in the journal *Environmental Science & Technology Letters*, the researchers found that almost half of paper wrappers such as burger wrappers and pastry bags, and 20% of paperboard samples, including boxes for fries and pizza, contained fluorine. Tex-Mex food packaging and dessert and bread wrappers, in particular, were most likely to contain fluorine compared with other categories of packaging.

Following a review by the US Food and Drug Administration in 2011, several major US manufacturers voluntarily agreed to stop using a long-chain PFAS called PFOA (perfluorooctanoic acid, also known as C8) compounds in food packaging due to health hazards. However, other countries still produce them, and many companies have been replacing them with shorter-chain PFAS compounds, some of which were detected in the study.

"The replacement compounds are equally persistent and have not been shown to be safe for human health," said co-author Arlene Blum, founder of the Green Science Policy Institute. "That's why we need to reduce the use of the entire class of highly fluorinated compounds."



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Fructose: fact^{versus}fiction

In recent years, food and beverage manufacturers have often found themselves caught in the middle of shifting attitudes and consumer confusion surrounding sweeteners.

On the one hand, consumers want great taste. It's the top driver for food and beverage purchase decisions. On the other hand, many consumers worldwide have made reducing sugar and calorie intake a top priority. For instance, a recent survey found that 47% of consumers' purchasing decisions were significantly impacted when products claimed to have low/reduced/no sugar; 44% were influenced by low-/reduced-calorie claims.

However, the confusion surrounding sweeteners makes it especially challenging for manufacturers to satisfy changing consumer attitudes while meeting their own formulation and operational needs. For example, fructose, a naturally occurring carbohydrate sweetener that offers many functional benefits to food and beverage manufacturers, has recently come under increased scrutiny. It seems to be suffering from a case of mistaken identity among consumers.

If consumers knew the facts about fructose, they would better understand that it helps to reduce calories and sugar while providing the same great taste and texture they expect from full-calorie/-sugar products.

The benefits of fructose

Fructose is a monosaccharide found naturally in many foods, including fruits, vegetables and honey. It is the sweetest of all naturally occurring carbohydrate sweeteners. Besides providing sweetness, fructose enhances flavour, mixes well with other sweeteners and starches, has higher solubility than sucrose, improves humectancy and protects fruit textures in frozen foods.

The higher sweetness potency of fructose also delivers a faster sweetness response. This gives manufacturers the ability to reduce total calories by using fructose in place of less sweet carbohydrates and sugars. Additionally, fructose works well in sweetener synergies with nutritive and non-nutritive »

sweeteners, enabling formulators to reach the same sweetness levels while using fewer total sweeteners overall.

Beyond its sweetening and functional properties, fructose has a low glycaemic response. This means consuming foods sweetened with fructose leads to a lower blood glucose rise compared to eating foods made with sucrose or glucose, a factor that's especially important to people with diabetes.

Because of the versatility of fructose, the number of food and beverages formulated with the ingredient has significantly increased over the past 30 years. In the APAC region, 7363 products containing fructose have launched since 2010.

Debunking fructose myths

Some consumers who are familiar with fructose in nature believe that the 'manu-

factured' fructose is different or inferior. The truth is that the two are molecularly identical.

Another big myth is that many consumers think fructose and high fructose corn syrup (HFCS) are one and the same, but they are two very different ingredients. HFCS contains almost equal amounts of fructose and glucose, typically about 55% fructose and 45% glucose (about the same percentages found in sucrose or table sugar), whereas fructose is 100% fructose.

The sweet truth

The truth is fructose provides many benefits to manufacturers and consumers. Once consumers know the facts about fructose, they'll understand it is an ingredient that can help meet their priorities for good health and great taste.

The more the industry can help consumers understand the differences in their sweetener options, the more confident consumers are likely to feel about choosing ingredients that work best with their personal health goals. For resources to help consumers know the truths about fructose, visit fructosefacts.org.

**Luis Fernandez is the Senior Vice President of Global Applications for Tate & Lyle. He has more than 25 years of experience in food ingredient applications in multiple categories, including confectionery, beverages, bakery and snack, and dairy, to name a few. Luis is also a Fellow of the Institute of Food Technologists and of the International Academy of Food Science and Technology. To learn more about Tate & Lyle's sweetener portfolio, visit www.tateandlyle.com.*

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You can't solve the food waste problem by overeating

If you believe that finishing an overloaded plate of food is 'avoiding waste', you might need to think again.

Researchers have found that 10% of available food is wasted by overconsumption, which in turn negatively impacts food security and the environment. When combined with the 9% of food that is left to spoil before being binned, that's almost one-fifth of food that is being wasted in the home.

Scientists from Edinburgh examined 10 key stages in the global food system — including food consumption and the growing and harvesting of crops — to quantify the extent of losses.

Using data collected primarily by the UN's Food and Agriculture Organization, the team found that more food is lost from the system than was previously thought.

Food losses

Almost half of harvested crops — or 2.1 billion tonnes — are lost through overconsumption, consumer waste and inefficiencies in production processes. Livestock production is the least efficient process, with losses of 78% or 840 million tonnes, the team found. Some 1.08 billion tonnes of harvested crops are used to produce 240 million tonnes of edible animal products, including meat, milk and eggs.

This stage alone accounts for 40% of all losses of harvested crops, researchers say.

Food security

Increased demand for some foods, particularly meat and dairy products, would decrease the efficiency of the food system and could make it difficult to feed the world's expanding population in sustainable ways. Meeting this demand could cause environmental harm by increasing greenhouse gas emissions, depleting water supplies and causing loss of biodiversity, according to the researchers.

But the trend could be reversed in part by encouraging people to eat fewer animal products, reduce waste and not exceed their nutritional needs.

The study, which was published in the journal *Agricultural Systems*, was carried out in collaboration with Scotland's Rural College, University of York, Karlsruhe Institute of Technology and the Centre for Australian Weather and Climate Research.

Huhtamaki looks to expand its Eastern Europe foodservice business

Food and beverage packaging specialist Huhtamaki will establish a greenfield paper cup manufacturing unit in Kiev, Ukraine. Huhtamaki has been present in Ukraine since 2002 and currently imports products mainly from its manufacturing units in Poland.

The new unit will manufacture a full range of paper cups for cold and hot drinks. Operations are expected to begin during 2018.

"Despite the recent political and economic turbulence, the foodservice market in Ukraine is growing and the country has an important role in many of our global key customers' growth plans. In addition, Ukraine has an extensive transport infrastructure and is well placed to service the neighbouring countries," said Eric Le Lay, executive vice president, Foodservice Europe-Asia-Oceania.

Sodexo launches 'Green & Lean' school meals

Global catering provider Sodexo has partnered with WWF-UK to create 'Green & Lean', a healthier and more sustainable range of menu choices with a reduced environmental impact.

Intensive food production is a major driver of habitat destruction and climate change and accounts for up to a third of our global greenhouse gas emissions.

Green & Lean meals are based on the idea that by making simple switches, such as serving more wholegrains, vegetables and pulses, using dairy products lower in fat and adding sugar and salt sparingly, meals will be better for human health. And by selecting seasonal fruits and vegetables and sourcing certified and sustainable meat and fish, the food that is served is better for the planet too.

Following successful pilot in eight schools in November 2015 — in which almost 20,000 meals, containing more than a tonne of extra vegetables, were served to pupils — Green & Lean meals will launch across over 40 independent schools in England. By January 2017, all independent schools served by Sodexo will be serving at least one Green & Lean meal per day.



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The backroom deals that shut small brands out of supermarkets

An investigative report commissioned by the Center for Science in the Public Interest (CSPI) has uncovered the secret deals that determine product placement — and consumer choice — in US supermarkets.

'Rigged: Supermarket Shelves for Sale' found that fees for shelf placement and retention and 'category captain' arrangements are undermining consumer choice and locking smaller players out of supermarket chains.

Slotting fees

Investigative journalist Gary Rivlin, who was commissioned by CSPI to prepare the report, said few industry insiders would speak on the record about slotting fees. "You're talking about a deep, dark secret of the retail world," said former supermarket executive Mark Heckman. Retailers, he said, "don't want one brand to know what the other is paying". One insider at a condiment company said his company typically pays between US\$5000 and \$20,000 per item.

CSPI Deputy Director of Nutrition Policy Jessica Almy says supermarkets sell the most prominent shelf space to the highest bidder. "That has the effect of squeezing out the little guy and ensuring that some products — especially name-brand sodas, chips and candies — are displayed at multiple locations all over the store, while other foods are relegated to a single shelf," she said.

Pay-to-stay fees

The report found that once a manufacturer has paid the price of admission, there's no guarantee its products will stay. Pay-to-stay fees can take the form of cash payments or trade discounts, such as coupons or 'buy one, get one free' promotions.

The most valuable real estate in the store is at the checkout aisle — the "beachfront property", in the words of one anonymous broker — that is sold by the inch. Rivlin was told of deals in which manufacturers paid a single chain more than US\$500,000 to place its product by all of the chain's registers for a few months. A company might have to pay up to about US\$5 million to place one chocolate bar in all the stores of the 50 biggest supermarket chains.

Other prominent locations in stores, such as endcaps — the displays at the end of an aisle — also command high prices from retailers.

Category captains

Supermarkets assign one of the major manufacturers of a given category of food to serve as 'category captains', who create documents known as planograms to dictate where their — and their competitors' — products go on shelves.

"It's hard to imagine a more unfair practice than giving the biggest food manufacturers the right to decide where its competitors sit on the shelf," said Almy.

Consumer health impact

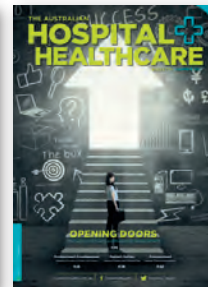
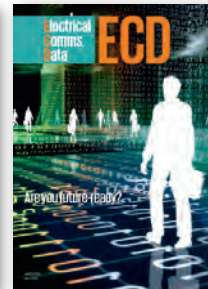
Supermarket placement fees determine the selection of products available to consumers and how they are presented, influencing which foods and beverages consumers buy and eat. The report recommends the adoption of 'healthy checkout' ordinances to ensure that that prime location is not used to undermine customers' health, and that retailers voluntarily reserve all or a percentage of prominent placements for healthful products.

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