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FEBRUARY 2017

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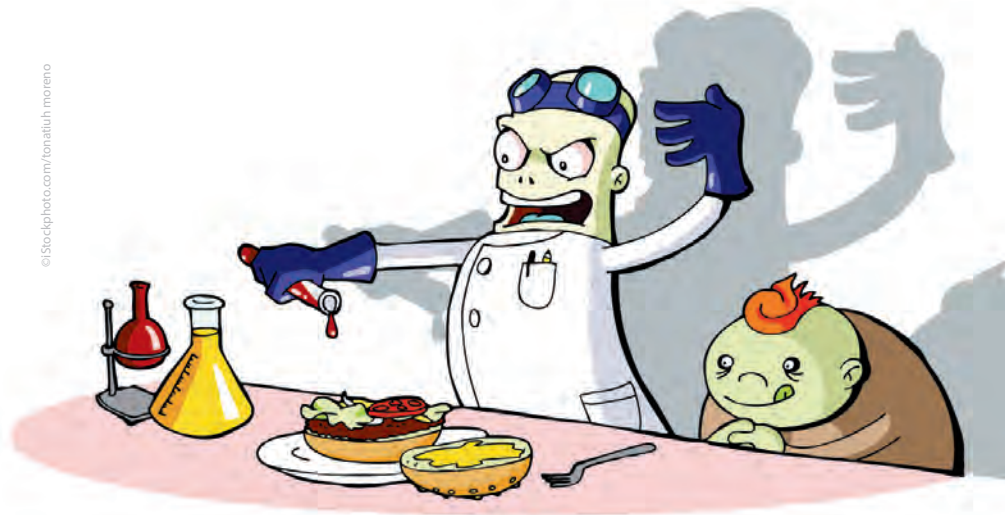




READ ONLINE!

This issue is available to read and download at:

www.foodprocessing.com.au/magazine



Genetic cuisine and ready meals

Bored by superfoods, super hype, personalised medicine, special people...? Well I was — now I am amused! All of this ‘fluff’ can be turned into money if you are clever enough to find a niche and use all the fancy words.

Enter Habit, a San Francisco-based company that, for a mere US\$299, will create unique diet plans for individuals based on their genetic make-up.

Now each person has to put some effort in here just to ensure that they understand how important and unique they are.

Habit mails each person a test kit and a “proprietary metabolic challenge beverage”. Showing their commitment to the cause of their ‘specialness’, each person must collect finger prick blood samples both before and after drinking the sugar, fat and carbohydrate containing beverage that has been “designed to replicate a typical American diet”.

Lab analyses of how 60 biomarkers in the blood samples changed after consuming the challenge drink, along with the more standard information such as height, weight, waist circumference, activity level and health goals, are then combined (surely algorithmically) to formulate a personalised diet for each person.

Chefs will then prepare personalised meals, which will be couriered to the door for \$12–\$15 each. [I have a mental image of a suitably attired chef wavering between adding teff or sacha inchi but certainly not quinoa or kale (so yesterday) as every meal is individually prepared — not.]

All of the testing, the test kit, an app, a coaching session with a nutritionist and all diet recommendations can be yours for just \$299. The service is currently recruiting for its beta-test program launching in January next year.

Top sentences from the Habit website:

- Phenotypic flexibility is used to understand your body’s metabolism and how your body responds to food.
- Our proprietary algorithms that drive our Nutrition Intelligence Engine are built using scientific expertise from the fields of nutrition, genetics and systems biology.
- Using sophisticated biological, anthropometric and genetic testing, we help you hear what your body has to say by translating your body’s needs into a personalised nutrition action blueprint.
- The secret to looking good in your jeans is in your genes.

I love it — this is taking ready meals to an entirely new level. Move over superfoods and personalised medicine, we are now entering the realm of genetic cuisine!



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Printed and bound by SOS Print + Media
Print Post Approved PP100021504
ISSN No. 2205-488X

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Regards

Janette Woodhouse



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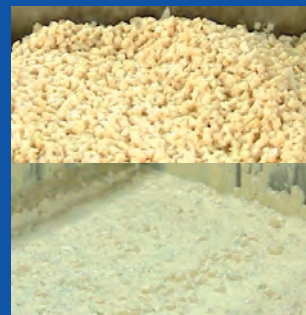
After 5 minutes

MEAT COATED WITH SPICES



After 1 minute

MAYONNAISE BASED POTATO SALAD



After 12 minutes

To see the video go to globalms.com.au and click on GBT300

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Food^{as} medicine



Malnourishment is rife in Australian hospitals and healthcare facilities and a significant contributor to medical care costs. As affordability becomes a bigger and bigger priority in Australian health care, there is an urgent need to address this ongoing issue and ensure that medical nutrition therapy plays a critical role in patient care.



Across the western world, it is estimated that around one-third of the people being admitted to hospital are malnourished. Sadly, the nutrition status of around two-thirds of these patients will decline even further during their time in hospital. They will be joined by around one-third of the patients who were not malnourished when admitted but became malnourished during their stay in hospital.

Malnourishment is an under-recognised, under-documented and under-diagnosed contributor to the soaring medical costs in Australia. It results in longer hospital stays, more hospital readmissions, higher infection rates, increased pressure ulcer risks and decreased wound healing.

The decline in the nutritional status of patients can be attributed to many factors:

- Poor appetite.
- Medical condition.
- The quality and variety of the foods available.
- Difficulty in accessing the food and/or manipulating the cutlery.
- Food packaging unopenable.
- Lack of feeding assistance.
- Missing meals while undergoing treatment.

One solution would be to document patients' food intake in a similar way to how their drugs are monitored and recorded. This way missed meals and difficulty accessing the meals could be noticed and addressed. Making patient nutrition an integral part of their treatment, and recognition of its importance by the entire team looking after the patient, would also be beneficial.

A recent US study found that optimising nutrition care for malnourished patients in hospital can reduce 30-day readmission rates by 27% and average hospital stays by almost two days.

In the Abbott and Advocate Health Care study two versions of a nutrition care program — basic and enhanced — were implemented at four Chicagoland hospitals.

Both programs required care teams to conduct patient malnutrition risk screenings using a validated tool on the hospitals' electronic medical records system, and provide nutrition treatment and support for malnourished or at-risk patients. The enhanced program included more immediate treatment upon hospital admission and follow-up calls to confirm their continued nutrition treatment after leaving the hospital.

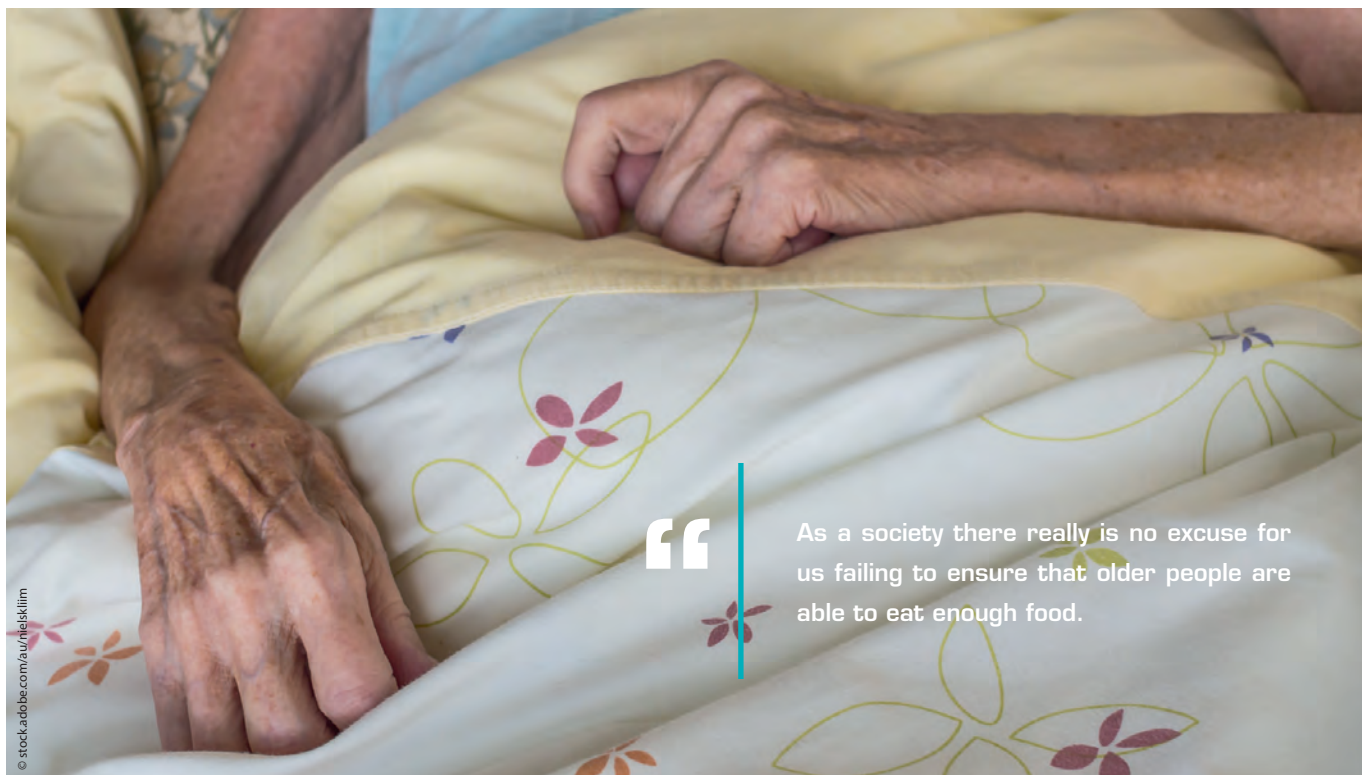
More than 1200 'at risk of malnutrition' adults were followed. When compared to the hospitals' previous readmission rates and lengths of stay for malnourished patients, researchers found that using either of the nutrition care programs had an impact, on average, of:

- reducing the risk of patient readmissions from 22.1% to 16.1% (27% reduction);
- shortening the risk of a patient's length of stay from 7.2 days to 5.4 days (25% reduction).

This study has built on existing research that confirms nutrition can be a simple, cost-effective tool. While nutrition screenings are considered standard-of-care in the hospital, not all use a validated screening tool or implement treatment immediately if someone is considered at-risk. Additionally, when people leave the hospital, many times they do not receive education or follow-up to ensure they are following a nutrition plan to aid their recovery.

Hospital admissions for malnutrition in the UK

In Britain the Department of Health (DoH) recently reported a 44% rise in UK hospital admissions related to malnutrition over the past five years. The number of bed days



“

As a society there really is no excuse for us failing to ensure that older people are able to eat enough food.

accounted for by someone with a primary or secondary diagnosis of malnutrition rose from 128,361 in 2010/11 to 184,528 2015/16. 57% of the patients involved were women with 42% aged over 65.

As a society there really is no excuse for us failing to ensure that older people are able to eat enough food, of the right quality, to stay healthy, yet the National Association of Care Catering found that only 48% of local councils still provide Meals on Wheels, compared to 66% in 2014. Apparently 220,000 fewer people were receiving Meals on Wheels in late 2014 than in 2010 and this downward trend has continued.

Increasing poverty is resulting in malnutrition across all age groups, not just the elderly. Recent figures by the Trussell Trust, an anti-poverty charity, report a huge uptake in emergency food supplies between April 2016 and September 2016. Across the UK, they distributed 519,342 three-day emergency food supplies to people in crisis, and of these, 188,584 went to children.

Treating malnutrition in hospitals

Dietitians should take centre stage as they can ensure nutrition is an ongoing component of a patient's health care, that it's discussed and addressed from the time of admission and hospital stay to discharge and outpatient follow-up. By working collaboratively with doctors, nurses and other healthcare practitioners as part of an interdisciplinary healthcare team, dietitians have the op-

portunity to not only increase awareness of hospital malnutrition but also improve patient outcomes.

Currently nutrition screening is not routine practice in many Australian hospitals. Three different methods are used to determine the nutritional status of patients:

- Subjective Global Assessment (SGA)
- Patient Generated Subjective Global Assessment (PGSGA)
- Mini Nutrition Assessment (MNA)

The adoption of a single, gold standard nutrition assessment tool that could be used across all healthcare facilities would make diagnosis, documentation and treatment simpler.

In 2009, the Dietitians Association of Australia (DAA) released endorsed Evidence Based Practice Guidelines for Nutritional Management of Malnutrition in Adult Patients across the Continuum of Care. The guidelines provide an evidence-based framework to standardise practice with six key points highlighted:

- Improved access to patient centred protocols.
- Correct diagnosis of malnutrition.
- An improved patient experience.
- Dietetics advocacy in addressing malnutrition.
- Appropriate food services and environments for eating.
- Building capacity for the healthcare workforce to appreciate the causes, indicators and treatments for malnutrition.

The role of the food provider

While dietitians play a key role in identifying malnourished patients and those at risk of becoming malnourished, the food preparers can also play a vital role in providing 'food as medicine'.

The meals served must not only meet the nutritional needs of patients but they must be served in a manner that makes them attractive and easy to eat.

Anecdotally, I hear that many doctors try to avoid rounding during meal times because they have to spend so much time opening patients' heat-sealed drinks and then cleaning the resultant spills. I know this method of sealing beverages is good for food safety, shelf-life extension and leak resistance, but if it prevents frail patients actually accessing their drinks it is a failure. Just providing a straw and straw access point would help.

The food itself must be what the patient can and will eat. Frail and vulnerable patients are unlikely to want to step outside their usual diets to eat cuisines that are unfamiliar to them. Equally, the food must look attractive — no-one wants to eat plonks of mush. Moulding pureed foods to resemble the original product is known to increase its acceptance by consumers.

It is time for the foodservice providers to step up and help relieve the scourge of hospital malnutrition. □

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'Fountain of Youth' diet



A low-protein, high-carbohydrate diet may be the most effective for stimulating a hormone with life-extending and obesity-fighting benefits according to new research from the University of Sydney's Charles Perkins Centre.

The findings, published in *Cell Metabolism*, paint a clearer picture of the role of a little-known hormone called Fibroblast Growth Factor 21 (FGF21) — the so-called 'Fountain of Youth' hormone produced primarily in the liver.

Previous studies have shown that FGF21 plays a role in curbing appetite, moderating metabolism, improving the immune system and extending lifespan. It is also currently being used as a therapeutic target for diabetes, though little is known about how this hormone is triggered and released in the body.

Now researchers from the Charles Perkins Centre have found that diets high in carbohydrate and low in protein are the best for boosting levels of FGF21 in mice.

"Despite the popularity of high-protein 'Paleo' diets, our research suggests the exact opposite may be best for us as we age — that a low-protein, high-carbohydrate diet was the most beneficial for late life health and longevity," said lead author Dr Samantha Solon-Biet.

"The nutritional context in which FGF21 is most elevated is dependent on the balance of protein to carbohydrate, and this balance was also shown to be important in how this hormone helps to mediate protein hunger.

"These findings take us one step closer to understanding how FGF21 works, and as an extension of that to be able to use FGF21 to help people live longer and healthier lives."

In the first ever study to assess how certain macronutrients interact with each other to influence the FGF21 level, researchers fed 858 mice one of 25 diets that varied in protein, carbohydrate, fat and energy content. These diets ranged from 5 to 60% protein and 5 to 75% carbohydrate and fat.

Using the geometric framework, researchers then mapped these macronutrient variables to investigate how nutritional balance affected FGF21 levels.

The study also revealed that when high carbohydrate diets increased FGF21 levels, the mice compensated for the excess by burning more energy. Conversely, in a starvation state FGF21 promoted energy conservation.

"FGF21 has been shown to be elevated in really paradoxical conditions: in starvation and obesity, in cases of both insulin resistance and sensitivity and when there's a high and a low intake of food," said co-author Professor Stephen Simpson, Academic Director of the Charles Perkins Centre.

"It appears that FGF21 is really switched on by a low protein intake, and its metabolic effects vary on whether it's coupled with high energy or low energy.

"Discovering more about how FGF21 is activated opens the way for nutritional interventions to chronic health problems, including as a potential drug target for the treatment of diabetes and other metabolic disorders. The next step will be to identify FGF21's exact signalling pathway in order to better tailor our diets and nutritional guidelines to generate the maximum benefit from this essential hormone."

The study was conducted in collaboration with the ANZAC Research Institute, Macquarie University, EWOS Innovation in Norway and the Pennington Biomedical Research Centre in Louisiana, USA. □



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Fraud, human error
or marketing ploy —

mislabelling seafood



What you get is frequently not what you think, with the mislabelling of seafood rampant across the globe. It has recently been estimated that nearly 30% of the seafood served in restaurants and sold in supermarkets has been 'mislabelled' as a result of fraud, human error or as a marketing ploy.

While this is unethical, there is a surprising upside to this practice — because the substituted seafood is usually more plentiful, the substitution is actually leading people to eat more sustainably.

The ecological and financial impacts of seafood mislabelling were examined by the School of Aquatic and Fishery Sciences and the Quantitative Ecology and Resource Management program at the University of Washington, with a study published in *Conservation Letters*.

"One of the motivations and hopes for this study is that we can help inform people who are trying to exert their consumer power to shift seafood markets toward carrying more sustainable options," said co-author and UW doctoral student Christine Stawitz.

Data from 43 published papers that tested the DNA of fish at various locations, including ports, restaurants, grocery stores and fish markets, was used to determine whether mislabelling occurred. This was then matched to the conservation status and estimated price for each of the mislabelled and true fishes listed in the studies.

A wide range of conservation status and price differences were seen, but two general trends emerged: true fish are of a better conservation status and slightly less expensive than the species named when fish are mislabelled.

Analysis found that true fish are valued at about 97% of the mislabelled seafood. That means consumers are paying on average a little more for mislabelled fish.

The study didn't examine the potential reasons behind this, but the researchers speculate that while it could be intentional mislabelling to rip off consumers, it is just

as likely that restaurants and markets are serving and stocking fish that they think match the label but are cheaper, more plentiful options. A white fish fillet can look like any number of species, they explained, and substitutions could happen anywhere in the supply chain.

The new study also summarises which fish are most likely to be mislabelled and, of those, which varied the most in conservation status between true fish and mislabelled fish. For example, snapper is one of the most frequently mislabelled fish. Its conservation status is vulnerable to endangered — meaning its population isn't doing well — but the fishes most often substituted for snapper are considered critically endangered.

Results from this study could be useful in helping consumers make sustainable purchasing decisions by avoiding fish that are most likely to be mislabelled. That list is led by croakers, shark catfish (or 'basa'), sturgeon and perch. Consumers can also look out for fish commonly replaced with species that are not from sustainable stocks. Examples include eel, hake and snapper.

These results could also help seafood certification efforts such as the Marine Stewardship Council focus efforts on fisheries that are most likely to be mislabelled, the researchers say. The Marine Stewardship Council certifies fisheries for sustainable fishing practices and follows seafood from the port to markets. This study offers information about where mislabelling might happen when products aren't tracked through the whole chain of custody. A fish often travels from the port to processors and several distributors before reaching the end market, and this change of hands is likely where mislabelling happens, the study found. □



Automatic electric multifunction pan

The Firex Cucimix 30 automatic electric multifunction pan can be used as a pan or a bratt pan. Taking up only a small space in the kitchen, the 30 L pan features electronic temperature control and independent programming of the mixer.

The pan is suitable for preparing a range of dishes, including bolognese sauce, risottos, soups, stews, pasta, sauces, creams, broths, meat and fish sauces, mirepoix, sautéed mushrooms, mustards, jams and marmalades.

Scots Ice Australia
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HACCP-certified vinyl powdered gloves

The Glove Company (TGC) has launched Vinyl Premium Powdered gloves that are HACCP Food Safety certified and suitable for use with food preparation, food service and processing.

The gloves are highly durable and an economical choice for those who change gloves frequently to avoid cross-contamination. They are designed to have a slightly looser fit, making them easier for donning and doffing for short-term tasks.

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Space Station research finds solution to smelly fryers

Unpleasant odours from deep-fat frying could soon be a thing of the past, thanks to experiments conducted on the International Space Station.

Cooking food such as French fries in hot fat or oil releases malodorous molecules that are extremely hard to remove or disperse. These odours are typically destroyed in bulky and expensive commercial cooker hoods by chemicals that create ozone as a by-product — which must be removed because of health concerns.

German deep-fat fryer manufacturer Blümchen is taking a different approach, based on plasma experiments that have been running on the Space Station since 2001.

Plasma is usually a hot, electrically charged gas, but it is possible to create 'cold plasmas' at room temperature. Cold plasma has proved to be an extremely effective bactericidal agent and can also tackle fungi, viruses and spores. It is safe to touch, which makes it attractive for many applications. Funded by the European Space Agency (ESA), scientists led by Professor Gregor Morfill took advantage of weightlessness in orbit to study complex plasmas, which provided the impetus to develop the cold plasma technology. A grant from ESA has helped to transform the knowledge into practical applications on Earth. Since 2013 Professor Morfill has been CEO of Terraplasma, which has already applied the cold plasma to medical and hygiene problems and to water treatment.

To remove odours, Terraplasma's system generates the plasma by sparking a glowing electrical discharge in the air between a short rod electrode sitting in the middle of a cylindrical electrode. The discharge is initially a narrow line about 1 mm thick somewhere between the electrodes, but when it is made to move rapidly by a magnetic field it spreads out to produce a plasma disc. The foul air is then passed through this disc for cleaning.

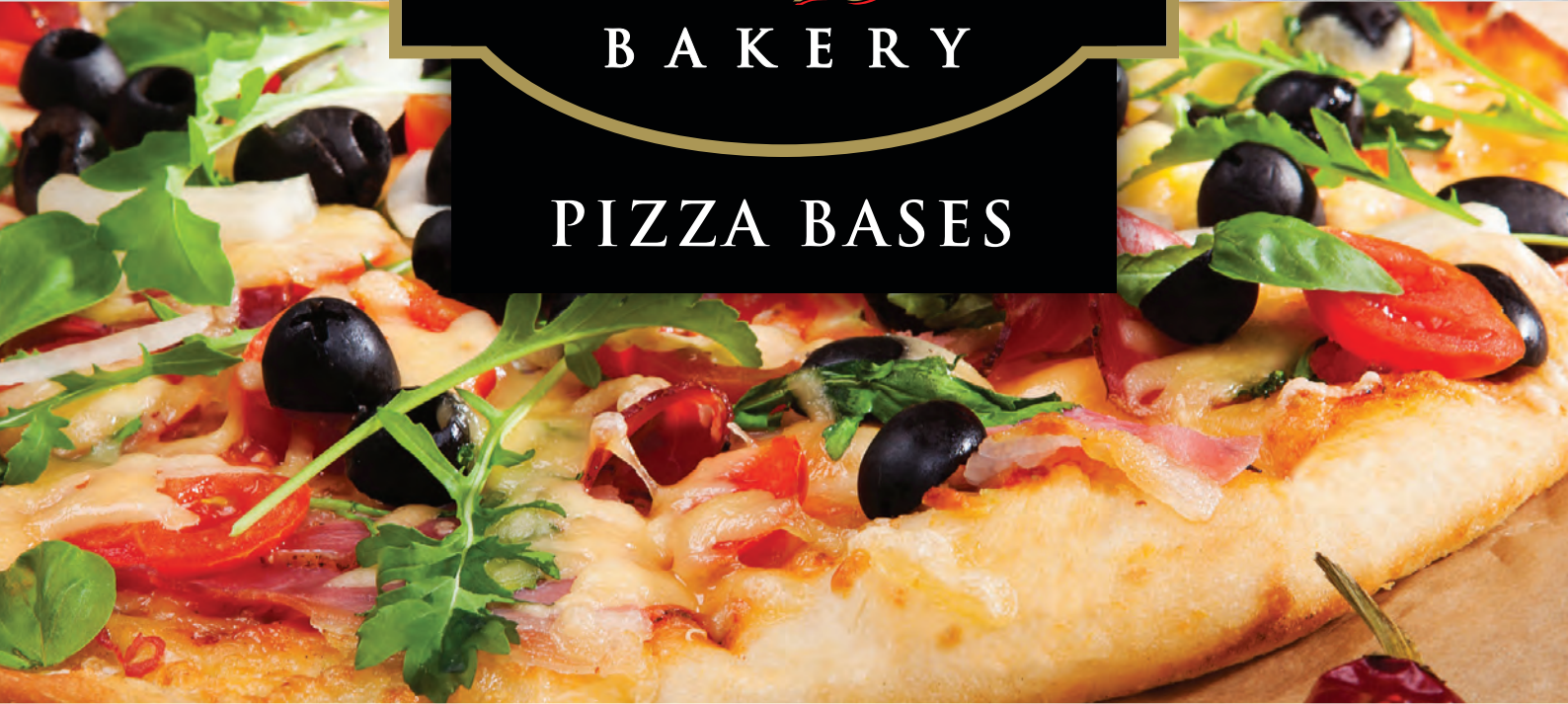
"The new design works by using electrons within the plasma to neutralise odours," explained Professor Morfill.

"It's also about a thousand times faster than the traditional chemical method."



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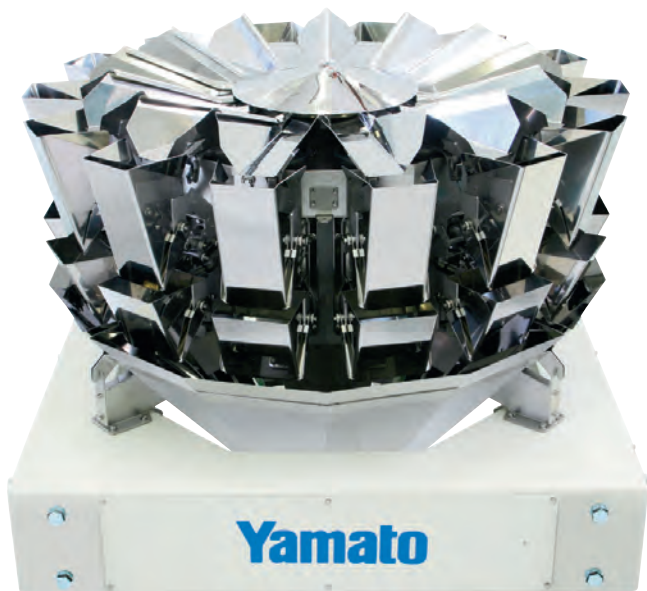
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Multihead scales

Yamato's Alpha Advanced series of multihead weighers comprises 16 different models suitable for a range of production requirements.

Improved productivity is achieved via high-frequency load cells which shorten the settle time of the weighing cycle, enabling high-speed weighing. The AFC system (Auto Feeder Control) improves feeding accuracy, while a broader range of feeder amplitude improves the ability to handle either sticky or fragile products.

The modular actuator unit incorporates the high-performance Yamato Strain Gauge Load Cells with stepper motors for bucket actuation. All buckets, linear pans and chutes can be removed or attached without the use of tools. Load cell protection withstands a vertical force of up to 150 kg.

Incorporating a 10.4" colour touch screen with user-friendly icons for easy operation, the system can memorise up to 100 preset programs and includes a USB port for data acquisition and program updates.

Selpak Automation Pty Ltd
www.selpak.com.au

Fresh produce

Perfection Fresh Australia has rebranded its produce, which includes Broccolini, Quakes baby cucumbers, tomatoes, Calypso mangoes and Perfection raspberries and blueberries.

The branding includes an Australian grown stamp, to enable consumers to choose to support local growers.



© Freeimages.com/Berkeley Robinson

Featuring a vintage postcard look, which includes illustrations to identify the fruit or vegetable's original source, the packaging also offers tasting notes and the Perfection Fresh Australia story.

The rebrand includes a new website, logos and unified packaging design for domestic and export products, which will be supported by a marketing campaign.

The company hopes to capitalise on the global trend towards branded fresh produce and ongoing interest from consumers to know more about the source and origin of their fruit and vegetables.

Perfection Fresh Australia Pty Ltd
www.perfection.com.au

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Could faecal transplants cure obesity?



A connection has been found between the diversity of bacteria in human poo — known as the human faecal microbiome — and levels of abdominal body fat.

Researchers at King's College London found that participants with a more diverse community of bacteria in their faeces had generally lower levels of visceral fat. Visceral fat is body fat that is stored in the abdominal cavity near a number of important internal organs and is linked with higher risks of metabolic diseases such as cardiovascular disease and diabetes. This type of fat has not previously been linked with the microbiome in humans.

The research, published in *Genome Biology*, also provides further evidence of possible genetic influences on obesity, through heritable bacteria found in the faecal microbiome.

The study of 1313 twins from the TwinsUK cohort used data from stool samples provided

by participants as part of their annual sampling to extract DNA information about faecal microbes. Researchers compared this to six measures of obesity, including BMI and upper to lower body fat ratios, but found the strongest links with visceral fat.

The study is one of the largest to look at links between the microbiome and obesity and adds to a body of evidence suggesting genetic influences on obesity.

While this research highlights genes that are relevant to the association between the microbiome and visceral fat, further research is needed to understand the specific influence of these genes and how this could be harnessed for potential future treatments and interventions.

"As this was an observational study we cannot say precisely how communities of bacteria in the gut might influence the storage of fat in the body, or whether a different mechanism is involved in weight gain," said Dr Michelle Beaumont, lead author of the study from the Department of Twin Research and Genetic Epidemiology at King's.

Senior author Dr Jordana Bell, from the Department of Twin Research and Genetic Epidemiology, said further scientific investigation is needed to understand how precisely our gut microbes can influence human health, and if interventions such as faecal transplants can be beneficial.

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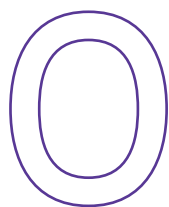
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The rise of restaurants without seats

and seats without restaurants

Every year Baum + Whiteman releases its annual hospitality predictions. This company really knows the restaurant and hotel dining business having created many high-profile restaurants around the world. It has just released its predictions for this year: '13 Hottest food & beverage trends in restaurant & hotel dining for 2017', which is a very entertaining read.



Of special relevance to the ready meals/prepared food industry is its second prediction: Restaurants without seats; seats without restaurants.

"In 2015 we highlighted the 'uberization' of food delivery ... with Amazon, Google, Uber, Postmates, etc. all scratching for a place at your dinner table. For 2017 we're spotlighting 'Virtual Restaurants' ... a different way our sharing economy is upending traditional restaurant thinking ... allowing American couch potatoes to wallow in mass personalisation without concern for the weather.

Indie startups and even chain restaurants are creating 'delivery hubs' ... commercial kitchens in offbeat, low-rent locations staffed by professional cooks. With no seats, their sole purpose is efficient meal delivery to people's homes. They are low-investment restaurants without dining rooms ... and you find companies as diverse as Panera Bread (which thinks there's a billion dollars just in catering) ... Momofuko's David Chang with two delivery-only brands in New York, Maple and Ando ... Munchery, delivering ready-to-heat meals from central kitchens in San Francisco, Los Angeles, Seattle and New York and with a corporate program for office workers hunched over their computers ... and spaghetti maven Michael White is teaming with UberEats for a delivery-only brand called Pasta on Demand. Green Summit in NYC has phantom restaurants ... an online-only stable of eight bogus brands with specialty menus, each with its own

website, and two kitchens feeding Manhattan and part of Brooklyn.

Meanwhile e-startups around the country are assembling networks of home cooks to prepare meals and deliver them to other people's dining rooms. So here we have seats without restaurants ... home cooks post their menus and customers use various apps to search, order and pay, after which food is delivered or picked up. Among them ... Yuma in Montreal ... and Umi Kitchen with Danny Meyer's daughter and Danny as an angel. They're not alone: ChefKiss is signing on local chefs in Tempe and Scottsdale ... Trybe is a London delivery platform for





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home cooks to prepare meals for hungry locals in their area ... Foodieshares has been doing it in LA. Most flirt with legal prohibitions about selling food from home kitchens but none is large enough to bother local health departments ... yet.

Another group of startups took note when AirBNB began taking reservations for dinners in home cooks' dining rooms ... a corporatization of an earlier underground restaurant trend ... and began launching similar apps connecting adventurous eaters with "boarding house" dinners and pop-up feasts in secret locations. There's VizEat in Italy, France, Spain, UK and Portugal ...

aimed at visitors to a city who'd rather not fall into standard tourist traps. And Feastly in Los Angeles and San Francisco.

Meal kits represent a growing (albeit still small) example of restaurants-without-seats business. Blue Apron, Hello Fresh, Plated, Chef'd and purely local outfits ... plus on-line grocers and even some restaurants ... plus consumer brands like Campbell's ... think there's a bonanza in ready-to-prepare meals-in-a-box at prices that rival costs for eating out.

Don't forget drones. Lots of experimenting going on ... including Google-Chipotle at Virginia tech ... Domino's pizza drone

in New Zealand ... 7-Eleven slurpees and sandwiches in Reno ... Amazon and the UK testing the feasibility of drone delivery.

A couple-of-billion venture capital dollars have flowed into food delivery businesses ... even as the field gets crowded and failures multiply. Eventually there'll be consolidation ... or, more importantly, they'll be gobbled up by my big-gorilla tech companies and integrated into reservations apps ... also a field getting overcrowded."

The rise of the virtual restaurant parallels the rise of the ready meal — so it looks as if 2017 will be great for this section of the food industry. □



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FSANZ releases updated Safe Food Australia guide

Food Standards Australia New Zealand (FSANZ) has released the third edition of Safe Food Australia — a guide to the food safety standards in the Australia New Zealand Food Standards Code. FSANZ Chief Executive Officer Steve McCutcheon said Safe Food Australia is used by government agencies responsible for enforcing food standards. Businesses may also find it offers guidance that will help them to comply with the standards.

"The new edition includes updated evidence and information to address current food safety issues and trends. It also provides new guidance for mobile, temporary and home-based vendors," McCutcheon said.

"It is now available as a searchable online document to help readers quickly and easily access the information they are looking for."

McCutcheon also launched FSANZ's online Food Safety Hub — a one-stop food safety shop — providing information for food regulators, businesses and consumers.

"The Food Safety Hub brings together food safety advice, guides, resources and tools to make it easier for users to find what they're looking for."

Automated burger formers

The Mainca range of burger forming machines has been expanded to include two automatic models: the HA-2200 and the HA-4400.

These machines are compact, robust and capable of producing 2200 and 4400 forms/h, respectively. These machines also have variable speed.

While competing machines may form uneven patties, Mainca formers possess two different bottom paddles that work together to shape the burger.

Various drums are available to produce different sized burgers — 35, 55 and 120 mm diameters. Drums for smaller sizes facilitate multi-form cycles, that is, a drum for a 35 mm burger will produce three burgers at a time and the drum for a 55 mm burger will produce two at a time. Thickness is adjustable from 4 to 34 mm depending on the drum.

For both models, an automatic paper dispenser attachment and foot pedal are standard features. The HA-2200 has a conveyor length of 330 mm and a 25 L hopper. The HA-4400 features an extended 750 mm conveyor belt, an automatic wire cleaner and a large 45 L hopper as standard.

Barnco Sales Pty Ltd
www.barncosales.com.au



Ice-cream range

Bulla Dairy Foods has launched its 'un-fakeably summer' range of ice-cream, cones, sticks and tubs. Using fresh milk and cream, the range adds a touch of innovation to create unexpected flavour combinations.

The Choc Bar Jelly Top contains raspberry jelly and ice-cream covered in a milk chocolate coating, while Jelly Splits features a traditional raspberry jelly covered in a lemonade shell.

The Bulla Frozen Greek Style Yoghurt range, available in cones, mini sticks and tub flavours, combines a smooth and creamy texture with the tanginess of yoghurt.

Bulla Creamy Classics Choc Hazelnut Spread is a rich ice-cream with a chocolate-hazelnut flavour.

Bulla Dairy Foods
www.bulla.com.au



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Algalif has introduced Icelandic Astaxanthin, a 100% pure and natural product cultivated directly from *Haematococcus pluvialis*, a rich source of natural Astaxanthin.

Developed in a facility built exclusively for the research and development of micro-algae solutions, the growth and cultivation systems are fuelled with pure Icelandic glacial water, 100% geothermal power and proprietary lighting to produce high-quality Astaxanthin.

The Astaxanthin is sold in bulk and is suitable for a range of applications including dietary supplements, skin care and pharmaceutical applications.

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www.algalif.com

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Better food safety: there's a recipe for that

If food safety reminders are included in recipes, compliance improves dramatically.

Only 25% of home cooks use a meat thermometer but this number increases to 85% if the recipe includes a reminder.

Likewise, usually only 40–50% of people wash their hands when cooking but if the recipe includes a reminder, 70–80% of people will wash their hands.

These results were observed by Edgar Chambers IV, co-director of the Kansas State University Sensory Analysis Center and his team, including researchers at Tennessee State University and RTI International and have been published in the *Journal of Food Protection*. The US Department of Agriculture intends to include these food safety instructions in the recipes that it develops henceforth.

The researchers observed 75 people cook two dishes — a Parmesan chicken breast and a turkey patty with mushroom sauce — following recipes that did not have food safety instructions. Another group of 75 participants cooked the same dishes following recipes that did include food

safety instructions. The dishes required the participants to handle raw meat, eggs and fresh produce while scientists observed how often the participants washed their hands or used a meat thermometer.

By comparing the two groups, the researchers found that 60% more people used a meat thermometer and 20 to 30% more people washed their hands when the recipes included reminders about the two food safety practices.

“This is such an easy thing to do: just add the information to the recipe and people follow it,” said Edgar Chambers. “It’s a simple way to reduce foodborne illness and we can actually reduce healthcare costs by simply adding information to recipes. It’s a great finding and a great piece of information for the promotion of food safety information.”

The research is well timed as the need for food thermometer use is increasing with LED lights and energy-efficient lights making meat and poultry appear as if they are more ‘cooked’ than they actually are. This lighting-based research has been published in the *Journal of Sensory Studies*. □

Pasta partnership serves 40 million meals to needy Australians

A partnership between food relief agency Foodbank and food businesses Manildra Group, MSM Milling, Rinoldi Pasta and Simplot Australia has delivered 40 million meals to people in need.

Manildra has provided 1800 tonnes of flour for the manufacture of pasta since it joined forces with Rinoldi in 2004, while MSM Milling has donated 15,000 litres of oil since it started collaborating with Simplot in 2009 to make and donate Leggo's Napoletana Pasta Sauce. Manildra also donates sugar from Sunshine Sugar for the pasta sauce.

Foodbank Australia's CEO, Brianna Casey, says this type of corporate sector support is essential to ensure the organisation can provide food for 644,000 people each month.

"The Pasta and Pasta Sauce Programs set the benchmark for our food industry partnerships. Through the generosity and commitment of Rinoldi, Manildra Group, MSM Milling and Simplot, we have a constant and sustainable supply of a product that forms the foundation of a variety of hearty meals," she said.

"The 2016 Foodbank Hunger Report reveals that 43,000 people are still being turned away by charities every month due to lack of food. If we're to bridge this gap, we need to find new and sustainable ways to supplement our existing sources of food. The Pasta Program is a standout example of what commitment and teamwork can achieve," Casey said.



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Calculating the environmental cost of a meal

Large institutions, caterers and home cooks will be able to confidently calculate the environmental impact of their menus thanks to a collaborative project between researchers in Australia and the UK.

The work by researchers from RMIT and Lancaster University has produced a carbon footprint 'league table' for fresh food, with a clear greenhouse gas emissions hierarchy emerging across food categories. Grains, fruit and vegetables were found to have the lowest impact, followed by nuts and pulses. Non-ruminant meat such as chicken and pork had a medium impact, as did fish when calculated as an average across all species, although results between species varied significantly. The highest environmental impact came from ruminant animals with multiple guts, such as beef and lamb.

The authors had worked with a residential aged care organisation to help reduce their greenhouse gas emissions. A key finding was that the food served to residents contributed to a large portion of the environmental impact, prompting the attempt to understand more clearly the global warming potential of differing foods.

The authors have produced a simple list to illustrate how much — or how little — it takes for different foods to contribute 1 kg of greenhouse gas emissions:

- 5.8 kg onions (about 50 medium onions)
- 3.5 kg apples (about 20 medium apples)
- 2.6 kg oats
- 1 kg lentils
- 1.2 kg peanuts
- 800 mL milk
- 290 g salmon
- 290 g eggs (about five small eggs)
- 270 g chicken
- 244 g kangaroo
- 212 g rabbit
- 131 g Australian pork
- 44 g Australian beef
- 57 g Australian lamb



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Associate Professor Karli Verghese said the study was the largest and most comprehensive examination of its kind, providing the first global league table for fresh food.

"With this full picture of the greenhouse gas impact of different foods, people can reliably work out more sustainable diets and menus for themselves and for their customers," said Professor Verghese.

Dr Stephen Clune, from Lancaster University, said that while it was impractical to replace beef with onions, the study showed that replacing it with other meats or plant-based protein sources would lower the environmental impact.

The paper, 'Systematic review of greenhouse gas emissions for different fresh food categories', has been published in the *Journal of Cleaner Production*.

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AUSPACK 2017 will see more than 350 exhibitors demonstrate and explain their products and services to more than an estimated 6000 visitors. More than 1200 brands in the processing, packaging, materials, components and materials handling sectors will be on display at the Sydney Showground, at Sydney Olympic Park, from 7-10 March (incl).

Packaging is getting smarter all the time — make sure you are too

At AUSPACK you will be able to find out about all the latest equipment, trends, themes and directions in both active and intelligent packaging. Currently estimated at \$5.3 billion globally, and expected to reach \$7.8 billion/year by 2021, smart packaging is an important growing trend that is particularly relevant to the ready meals market.

In the intelligent packaging space, Australian companies exhibiting at AUSPACK are developing solutions for brand owners that enable the development of experience-rich marketing campaigns; relay vital information on nutritional content and product provenance; and provide a platform for authentication, traceability and brand protection.

While active packaging is a relatively mature market, intelligent packaging is in a high growth phase, spurred by printed

electronics, the cloud and the Internet of Things, which combined create a new frontier for packaging manufacturers and exciting opportunities for food and beverage manufacturers.

Intelligent packaging technologies incorporated or embedded in a pack (like codes and tags) provide a means to access information, check authenticity, monitor product conditions, receive and store data as well as deliver messages to customers, shippers and brand owners.

An important application for Australian manufacturers is proving product provenance and authentication, particularly for those exporting into Asian markets where counterfeiting is rife and where consumers seek assurance that a product is genuinely Australian.

Product identification and inspection expert Matthews Australasia (Stand 56 at AUSPACK 2017) has worked with New Zealand company Trust Codes to provide high-end infant formula processor Camperdown Dairies with a groundbreaking platform to allow Chinese consumers to quickly check the authenticity and provenance of its products using their smartphones.

The system prints each tin of infant milk formula with a unique QR code with human-readable information managed by Matthews' iDSnet software. The printed QR code allows consumers to scan and identify

the individual product and report its history, among other information.

In another local development, packaging equipment supplier Result Group (Stand 38 at AUSPACK 2017) has partnered with IDlocate, a traceability and anticounterfeit solutions provider, to deliver a consumer-facing authentication platform which enables unique QR coding systems to be printed on packaging. By scanning the code with any smartphone or handheld device, consumers have direct access to a range of data in real time — including growing information, ingredient details, promotional offers, export origin and serving suggestions.

Benefits to brand owners include the ability to check supply chain and distribution without needing third-party feedback, and the capability to understand consumer-buying behaviour firsthand, plus being able to build product-relevant custom content and share it with consumers instantly.

Augmented Reality is another exciting technology being used by brands to create engaging and immersive experiences for consumers. Omniverse Foster Group (Stand 27 at AUSPACK 2017) will be demonstrating advances made to its 3D immersive packaging technology which it introduced at AUSPACK 2015. The company will showcase how it is taking AR to the next level of digital platforming, enhancing the technology's ability to bring brands to life.



See the latest food processing equipment as well

Wednesday, 8 March will be the inaugural Processing Day at AUSPACK 2017.

"Each show we grow the processing side of AUSPACK and this will continue in 2017 with more exhibitors providing more processing machinery and solutions than ever before. Processing Day will be launched as part of AUSPACK, highlighting the latest and best the industry has to offer," explained Luke Kasprzak, Portfolio Director – Industrial Division, Exhibitions and Trade Fairs.

"Multiple processing events will be held throughout the day with dedicated educational sessions, workshops, meetings and networking gatherings. Processors and processing machinery suppliers will discuss

issues industry is currently facing and learn how the latest technology can help them to overcome those."

Register online now

Attendance at AUSPACK is free — register online at www.auspack.com.au now so you will be able to walk straight in and start discovering what you need to make your business more efficient and profitable.

2017 AIP National Technical Forums

Alongside AUSPACK, the Australian Packaging & Processing Machinery Association (APPMMA) and the Australian Institute of Packaging (AIP) will be hosting the 2017 National Technical Forums. This three-day

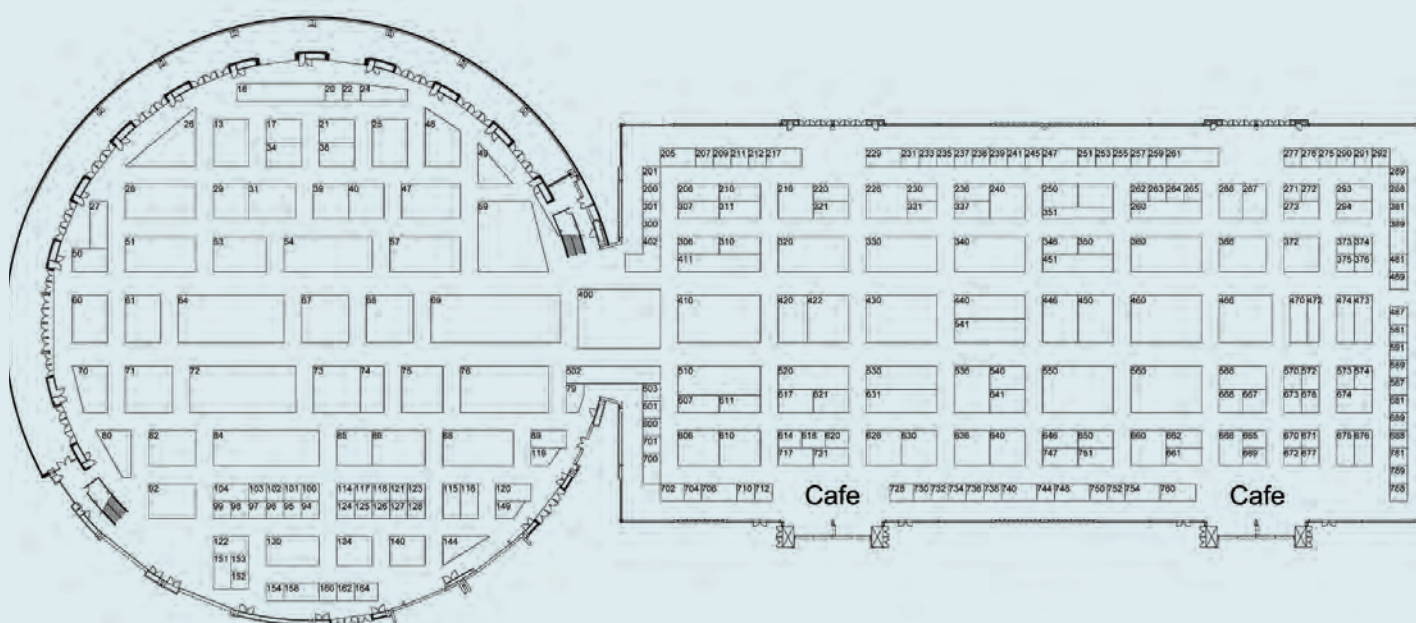
educational program will cover a broad range of topics relating to the theme 'Innovation & Design' and feature a range of national and international speakers.

Appealing to those in management positions (including design, development, marketing, production, engineering, supply chain and logistics personnel), as well as equipment suppliers, raw material providers, users of packaging, retailers and consumers, the forums will add depth and networking opportunities to those visiting AUSPACK.

The 2017 AIP National Technical Forums will be held as a part of Packaging & Processing Week at the Sydney Showground, Sydney Olympic Park, from 7–9 March 2017.

Visit aipack.com.au/event-registration to show your interest in attending this event. □

Floorplan*



*Both the exhibitor list and floorplan were correct when supplied (9/12/16) but AUSPACK is proving so popular that extra exhibitors are expected.

Exhibitors*

Exhibitor	Stand number	Exhibitor	Stand number	Exhibitor	Stand number	Exhibitor	Stand number
3M	630	Elettric 80	216	Kuka Robotics	53	Rhima Australia	451
A&D Weighing & Inspection	70	Elliott Automation	160	Label Power	487	RK Rose & Krieger	301
AAA Packaging Supplies	311	Emrich Packaging Machinery	28	Lachenmeier / Bliss & Reels	466	RML Engineering	422
AB Autopack	700	Enterline Packaging Solution	712	LD Packaging	310	RMR Process	331
ABB Australia	502	Environmental Control Products	748	Leussink Engineering	276	Robatech Gluing Technology	205
AccuWeigh/AccuPak	92	ErgoPack Australia	245	Leuze Electronic	116	Robot Technologies/Systems Australia	293
Adept Turnkey Vision Systems	50	Eriez Magnetics	601	Lighthouse Systems	754	Robotic Automation	266
ADM Packaging Automation	440	Ernest Fleming Machinery & Equipment	240	Linco Food Systems	54	Rockwell Automation	73
Aerofloat - Wastewater Treatment Specialists	79	Esko Australia	84	Machine Knives (Aust)	570	Romheld Automation	74
AmbaFlex Spiral Conveyor Solutions	120	Falsdell Machinery	510	Magnattack Global	366	Roxset Health + Safety Flooring	259
Anderson Wholesale Packaging	233	Fanuc	530	Makum	641	Sabre Medical Packaging	752
APPMa	60	FB Propak	76	Martor Australia	235	Schur	18
Approval Laboratories	744	Fibre King	71	Matthews Australasia	59	Scott Automation + Robotics	250
Asafe Australasia	646	Filling Machines Australia	607	Metro Plastic Manufacturer SDN BHD/Malaysia	734	Selpak	520
ATS Applied Tech Systems	481	Fletcher International	732	Milliken Chemical	21	Sepak Industries	781
Aupacific Co	257	Flo-gineering	689	Millsom Materials Handling	470	Shanghai Jorner Machinery Co	49
Aurora Process Solutions	541	Food & Beverage Asia	200	Minipack International	640	Shrinath Flexi Pack	574
Australian Institute of Packaging (AIP)	122	Food and Beverage Industry news	231	Minipack International Food Division	740-742	SI Instruments	572
Australian Wrapping Company	360	Foodmach	260	Multipack	667	Sick	61
Australis Engineering	67	Foster Packaging	337	Multiplex Packaging SDN BHD	149	SKY Softgel Co (Korea)	340
AutoCoding Systems	450	FPC Industry Co	789	Narrowtex Australia/Absortech	662A/B	Smalte Conveying	666
Automaint Solutions	68	Fromm Packaging Australia	560	National Weighing	674	SMC Pneumatics	57
Avian Granulator Group	760	Fujian Henglong Plastic Industrial Co	710	NDA Engineering	277	SMI SpA	675
Axelent Automation & Safety	626	Fullun Packing Manufacture	489	Netzsch Australia	688	Solutionpack Machinery (M) Sdn Bhd	668
Barry-Wehmiller Australia	29	Global Packaging	229	Nordson	226	Spraying Systems Co	611
BCDS Group	706	GMD Innovation	750	NSK Australia	603	Stainless Tank & Mix	472
Beagle Pack	728	Grain Tech	389	Nupac Industries	430	Sunlea Label Printing Co	617
Biofiba	290	Grip B Innovations Co	251	OFS	272	Superior Pump Technologies	210
BioSteam KHD Belt Cleaning	300	H&H International Corp	573	Omniverse Group	27	Suzhou Tipack Co	162
Biotec Solutions	460	Hastings Data Loggers	288	OMS Australasia	474	Synergy Packaging	540
BluePrint Automation	25	Haver & Boecker	115	Oriental Packing	144	Synthetic Packers	676
Busch Vacuum Pumps and Systems	134	Heat and Control	72	Packaging and Food	738	Taiwan Hon Chuan	40
C21 Systems	751	Helee Group	291	Packaging Council of New Zealand	153	The Le Mac Australia Group	275
Cama Australia (Cama Group)	550	Hewlett Packard	678	Packline Solutions	372	Thermal Ribbons Australia	119
Case Packing Systems	31	Hot Melt Packaging Systems	69	Packsize	39a	Thriving Enterprises	273
CDE Design Solutions	669	Hybrid Software	140	Packweigh Equipment	247	TigerPak Packaging	350
CGP Coating Innovation	566	Icon Equipment International	206	Paksmart Machinery	402	Tinco	217
Chart Inc	220	ifm efector	721	Perfect Packaging	48	Titan Packaging	614
Chellsons	701	InControl Hygiene	262	PerForm-Meypack-Kliklok	636	TNA	85
Cheng Fong Plastics Co	154	Industry Update Media	581	PharmEquip	600	Total Pack Australia	152
Clariant South East Asia	746/748	Industrysearch.com.au	650	Phillro Industries	346	Toyota Material Handling	88
Concetti Group	89	Innopack Suzhou Co	782	Pilz Safe Automation	730	Tronics	26
Confoil	661	Inside FMCG insignia	704	PKN Packaging News + Food & Drink Business	151	TXM Lean Manufacturing	591
Contech & Flexmove Systems	24	Integrated Machinery / Sinolox	446	Polytij	201	UCIMA	536-636
Cope Air Technologies	252	Intralox	86	Pressco Technology Inc	681	UV Solutionz	253
CP Packaging Industry Co/CP Poly-Industry Co	587	ITW Zip-Pak Australia	17	Print & Pack Australia	307	Viking Food Solutions	606
CPS	51	Jet Technologies	660	Prior Packaging	267	Visy	62
Crafers Group	747	Jialong Group	381	Product Identification Solutions	610	Vpet Plastic Co	255
CS Machinery Co	20	JL Lennard	320	Propac Industrial	47	Walls Machinery	400
Dandong Mingcheng Environmental Protection Products Co	736	JMP Engineering	411	ProPak Events	673	Wedderburn	13
Dansensor - Pryde Measurement	289	Johns Adhesives / Beardow Adams	230	Proseal Australia	420	Wellman Packaging	351
Datalogic Automation	321	Joseph Lee & Co	261	Qimarox	34	Wells Hygiene and Detectable Products	473
Department of Industry, Innovation and Science	207	Keneng Packaging	620	QLM Label Makers	292	What's New In Food Technology & Manufacturing	158
		KHS Pacific	702	QPM Packaging	236	Workflow	589
		Kiel Industries	621	Qualicaps Co	788	WRH Global Australia	82
		Kockums Bulk Systems	75	Recopak Machinery	130	Yii Lee Enterprise Co	22
		Koelnmesse	618	Regethermic	306	Youngsun China	631
		Krones Pacific	330	Result Group of Companies	38	Zanasi - Make your Mark	294
		Krueger & Salecker	717	Retailquip	164		



Egg-based sweet snack

Sunny Queen Meal Solutions has launched a ready-to-serve, egg-based sweet snack.

Sweet Bites can be enjoyed either warm or cool, and are available in three flavours: Double Chocolate and Coconut; Banana and Chocolate; and Apple and Sultana. They are gluten-free and contain no artificial colours or flavours.

The snacks are snap frozen, giving them a shelf life of 12 months, and can be heated in a sandwich press, combi or conventional oven, microwave or hot plate.

They are suitable for a range of commercial outlets such as quick service restaurants and cafes, and in aged care, health care and large institutions.

Sunny Queen Meal Solutions
www.sunnyqueenmealsolutions.com.au

Compact skewerer

Kyoei's compact KKS-860 skewering machine is capable of up to 100 skewers/min, depending on operator speed. With full pneumatic operation, the skewerer is user friendly and is easy to keep hygienic. Being a semiautomatic process, operators are still needed to load and insert trays.

This machine can be customised and manufactured according to user specifications.

Barnco Sales Pty Ltd
www.barncosales.com.au



Mango topping

Edlyn has released a mango-flavoured topping. Packed in a 3 L bottle, the topping is gluten-free, GMO-free and Kosher-certified and is suitable for milkshakes, smoothies, ice-creams and desserts.

Other topping flavours available include chocolate, strawberry, vanilla, caramel, banana, coffee, lime, spearmint, raspberry, pineapple and blue heaven.

Edlyn Foods Pty Ltd
www.edlyn.com.au



Ready meals for children

A frozen meal range targeted at 'junior foodies' has arrived in Australian supermarkets.

Coco & Lucas is a range of meals pitched at 3- to 12-year-olds. All of the meals are gluten- and lactose-free, contain at least 25% protein, use Australian meat only and include no artificial colours or flavours.

The range includes spaghetti bolognese, beef cottage pie, mini bangers and mash, and grilled chicken breast with brown rice and vegetables. All meals have been awarded health star ratings between 3.5 and 4.5.



Using light to accentuate food

A Spanish delicatessen chain has opted for ERCO LED lighting tools in its newest store to present its array of regional specialties in a fresh and appetising light.

A small chain of delicatessen supermarkets in and around Barcelona, Casa Tió sells mostly meat specialties — hams and sausages, cuts of chicken, duck, goose, rabbit, pork, lamb, veal and beef sold in fresh, vacuum-packed portions — as well as milk, cheese, eggs and wine from the Catalan region. To help customers distinguish between the different kinds of meats and products, a

primary concern was superior light quality to ensure faithful reproduction of the various colours.

Opened in 2015, the store was conceived with a new interior design as a prototype for other Casa Tió stores. The zonal lighting solution relies on ERCO LED lighting tools for maximum flexibility using a single range of luminaires. To blend in with the store's black ceiling, Optec spotlights finished in black were mounted on a black ERCO track system. The result is a display of gourmet foods and products presented in light that is virtually invisible to the customer.

The ERCO LED Optec spotlights used in the store provide 24 W warm white light at 3000 K — offering high-quality colour rendering properties ($R_a \geq 90$) as a feature.

Looking for a machine dedicated to the packaging of ready meals? The brand new *Multivac G700 Traysealer* is your solution.

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BETTER PACKAGING

Baby food creator opts for re-usable packaging

A re-usable polypropylene pot has been selected to provide a point of difference in a range of ready-made organic baby foods released in Sweden.

The Lovemade range includes eight locally produced varieties packaged in RPC Superfos's injection-moulded SuperLock polypropylene pot, which holds 215 mL of product and features a 95 mm-diameter lid.

The creator of the range, Danish entrepreneur Silvia Wulff, said the width of the lid is important.

"In terms of giving parents an ease-of-use experience the diameter is important," she explained. "The SuperLock pot is the right size, making it easy to stir, get a spoon in and the baby food out. Add to this the

click-on screw-off lid makes it hassle-free to open and reclose the pot."

The barrier labels of the pot provide a long shelf life, enabling the products to be placed in retail stores under ambient temperatures alongside competing products sold in glass.

"Plastic has low weight, which means reduced transportation costs and reduced environmental impact. I also appreciate the fact that SuperLock is suitable for autoclaving, so we can ensure suitable shelf life and at the same time deliver pure and natural products, avoiding the need for additives or preservatives. In addition, the pot can be re-used at home multiple times, which adds value to our product," said Wulff.

The labels feature eye-catching artwork, while the base of the pack is transparent, making it possible to see the contents at the time of purchase.

RPC Superfos

www.rpc-superfos.com



Infant formula

Freedom Foods brand Australia's Own has launched a range of infant formulas and toddler milk drinks.

The Gold and Diamond Infant Formulas use only Australian cow's milk and contain both a pre- and probiotic.

The Gold range includes Omega 3 and 6 in all stages plus GOS prebiotic in stage 1 at 118 mg/100 mL. The Diamond products have higher levels of Omega 3 and 6, a Bb12 Probiotic in all stages and GOS prebiotic in all stages from 400–500 mg/100 mL.

The products are manufactured at a nutritional plant in the Gippsland region of Victoria.

Freedom Foods
www.freedomfoods.com.au



Food-contact approved paper

British papermaker James Cropper has launched the Dolcelicious food contact-approved range of papers in Australia.

Designed for premium food brands, including chocolatiers and specialty tea and coffee suppliers, the paper range is suitable for contact with dry, moist and fatty foodstuffs.

Available in 11 colours — including lemon drizzle, liquorice, silver spoon and kiwi fizz — the paper can also be tailored using embossing patterns.

The range is manufactured in the UK to meet Regulation (EC) 1935/2004 and ISO 9001, ISO 14001, ISO 50001 and OHSAS 18001 Standards.

All papers in the range are FSC certified.

Elof Hansson Australia
www.elofhansson.com

Vending machines go healthy and high tech

US vending specialist Gilly Vending has partnered with Atlanta-based Georgia State University to provide state-of-the-art snack and beverage vending machines for more than 50,000 students and faculty.

Designed with consumer-engaging technologies such as real-time sales, loyalty reward programs, cashless payment solutions and 3D interactive touch screens, and including organic and all natural product lines, Gilly's cloud-based systems offer the opportunity to network all machines on campus to maximise efficiencies.

In compliance with US federal guidelines, the energy-efficient machines will generate up to 50% power savings and will feature nutritional ingredient displays.

Gilly provides traditional and healthy vending programs to aviation, hospitals, colleges and universities across the US.



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Why do many older adults eat less than the recommended amount of protein?

Ready meals can help increase protein intake in the elderly

Low protein intake is associated with an increased risk of falls and fractures, a weaker immune system and a higher risk of infection. So in fact, older adults should be increasing their protein intake to modify these risks and recent research has found a place for ready meals in improving protein consumption in older people.

"Eating enough protein is important for our health as we age, but many older people don't consume enough. Options such as taking protein supplements or having fortified foods are often unpopular, so we chose to focus our research on foods that are naturally high in protein. We wanted to find out how often people were eating animal-based proteins, such as meat, fish, eggs or dairy, and why they appeal," explained Professor

Katherine Appleton, lead researcher in a Bournemouth University study.

"We surveyed older adults living in the community and found that people were most likely to eat different types of animal protein if they were tasty, affordable and convenient to buy and prepare. As people age they may face problems with eating and digesting some foods, which affects what they choose to buy and eat, but unlike other studies, we found that this wasn't necessarily the most important factor when choosing the foods we were interested in.

"We found that people were also likely to select food that they perceived to be healthy. These reasons all have implications for the kinds of interventions that are likely to be successful in persuading older people to eat more protein," continued Dr Appleton.

"Our findings have a number of implications for intervention strategies. Taste was an important factor, so that suggests that we should be considering the use of flavourings and promoting appetising recipes or taster sessions. We also found that people took into account the healthiness of foods when picking what to buy and eat, so better information and education may also change people's decisions.

"Cost and ease of preparation also emerged as factors in our study. This suggests that the promotion of pre-prepared or pre-cooked foods may make a difference to protein consumption, as might education around the promotion of cheaper sources of protein. This could be as simple as promoting recipes or demonstrations explaining how to reduce waste and use all of the food we buy." □



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2016's worst food and supplement labelling scams

US non-profit health advocacy group Center for Science in the Public Interest (CSPI) has released its list of the 10 Worst Food and Supplement Scams of 2016, criticising companies that rely on “pretty pictures and appealing buzzwords to fool people into thinking that their foods or supplements are healthier than they really are”, according to CSPI senior nutritionist Lindsay Moyer.

In no particular order, the labelling scams of 2016 are:

1. **Nutella.** The family favourite, which calls itself ‘Hazelnut Spread with Cocoa,’ contains more sugar and (sustainable) palm oil than hazelnuts and cocoa, earning its place on the list.
2. **Quaker Real Medleys SuperGrains Blueberry Pecan.** This granola has more sugar and oil than pecans, and more cornstarch than quinoa or blueberries.
3. **Nabisco Good Thins.** The Potato One Sweet Potato variety contains more white potato flour and cornstarch than sweet potato powder. The Potato One Spinach & Garlic has more potato flour, cornstarch, oil and white flour than dried spinach. The Chickpea One Garlic & Herb contains more white flour and oil than chickpea powder.
4. **Oscar Mayer Natural Slow Roasted Turkey Breast.** “Some things are full of hormones. We’re not,” said one of the company’s ads in 2016, despite the fact that no brand of turkey has hormones added because they’re prohibited by US federal regulations. Oscar’s Natural labels also claim that its turkey contains “no nitrites or nitrates added except those naturally occurring in celery juice and sea salt”. Translation: you’re getting nitrites and nitrates from the celery juice.
5. **M Drive.** This dietary supplement was advertised in high-end magazines as a testosterone booster for men. A one-month supply sells for roughly US\$40. Containing a concentrated extract of the herb

ashwagandha, it promised to “enhance vitality & sexual function”. But in the only two studies, men who took the extract did not have any higher testosterone levels than men assigned to take a placebo.

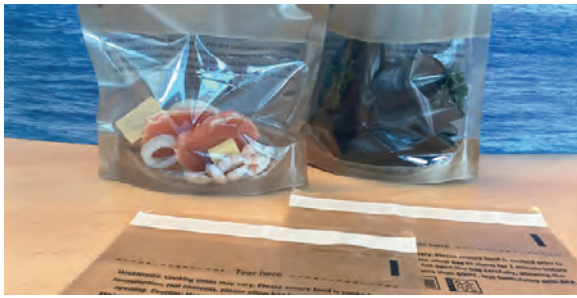
6. **Simply Mixed Berry Juice Drink.** “Just simple ingredients. Honestly simple,” claimed ads for Simply Mixed Berry in 2016. Yet the drink is 90% water and added sugar. Simply Tropical is 85% water and added sugar. Simple? Sure. Honest? Not so much, says CSPI.

7. **Ocean Spray Greek Yogurt Craisins.** Ocean Spray took dried cranberries and “dipped them in real, tangy Greek yogurt”, according to the label. But the Craisins have more sugar and saturated-fat-rich palm kernel oil than Greek yoghurt powder, which explains why each serving has less than a gram of protein.

8. **Suja Green Delight.** A 350 mL bottle of this ‘green’ smoothie costs about US\$4. Its first ingredient is cheap, nutrient-poor apple juice, not the kale, spinach or other veggies that consumers probably expect. Suja’s King of Greens and Easy Greens also have more apple juice than any of their greens.

9. **VitaFusion Complete Multivitamin Gummy.** Despite being labelled as ‘complete’, the gummy multivitamins are missing nine essential vitamins and minerals, including vitamins B1, B2 and K and the minerals magnesium, zinc, copper and selenium.

10. **Brookside Berry Medley Flavors Crunchy Clusters.** The packaging features cranberries, blueberries and raspberries, but there are no blueberries or raspberries in the clusters — just juice concentrates. And they contain more chocolate, sugar, palm kernel oil, white rice and about half a dozen other ingredients than cranberries. Plus, the calories, sugar and other nutrients listed on the front label is for a serving size of less than a third of the smallish 140 g bag.



Steam cooking bags in stand-up pouch format

Sirane has developed steam cooking bags for the oven and microwave in a stand-up pouch format.

The steam cooking bags allow flavours to be sealed in for simple, tasty cooking. Heat-sealable and self-seal versions are available.

The bags are designed to be used safely in a conventional oven up to 200°C, in a microwave and in a freezer for subsequent reheating and eating.

They are made from high-temperature-resistant film and sealed in using a fold-over flap, after which the bag becomes odour- and leak-proof.

The bags are available in a range of sizes and colours, can be custom printed and can also incorporate a carry-handle.

Suitable for fresh ready meals incorporating fresh fish or meat, with the addition of sauces, butters and glazes they allow a whole meal to be sealed in a bag and handed to the customer to take home and cook.

Sirane Ltd
www.sirane.com

Multifunctional kitchen equipment

The Polaris Genius range comprises multifunctional equipment capable of fulfilling multiple kitchen needs in one appliance. With the ability to blast chill and freeze, it can be used for slow cooking and warm holding, as a bakery retarder-proofer and for thawing.

The range includes five models of varying capacities.

Scots Ice Australia
www.scotsice.com.au



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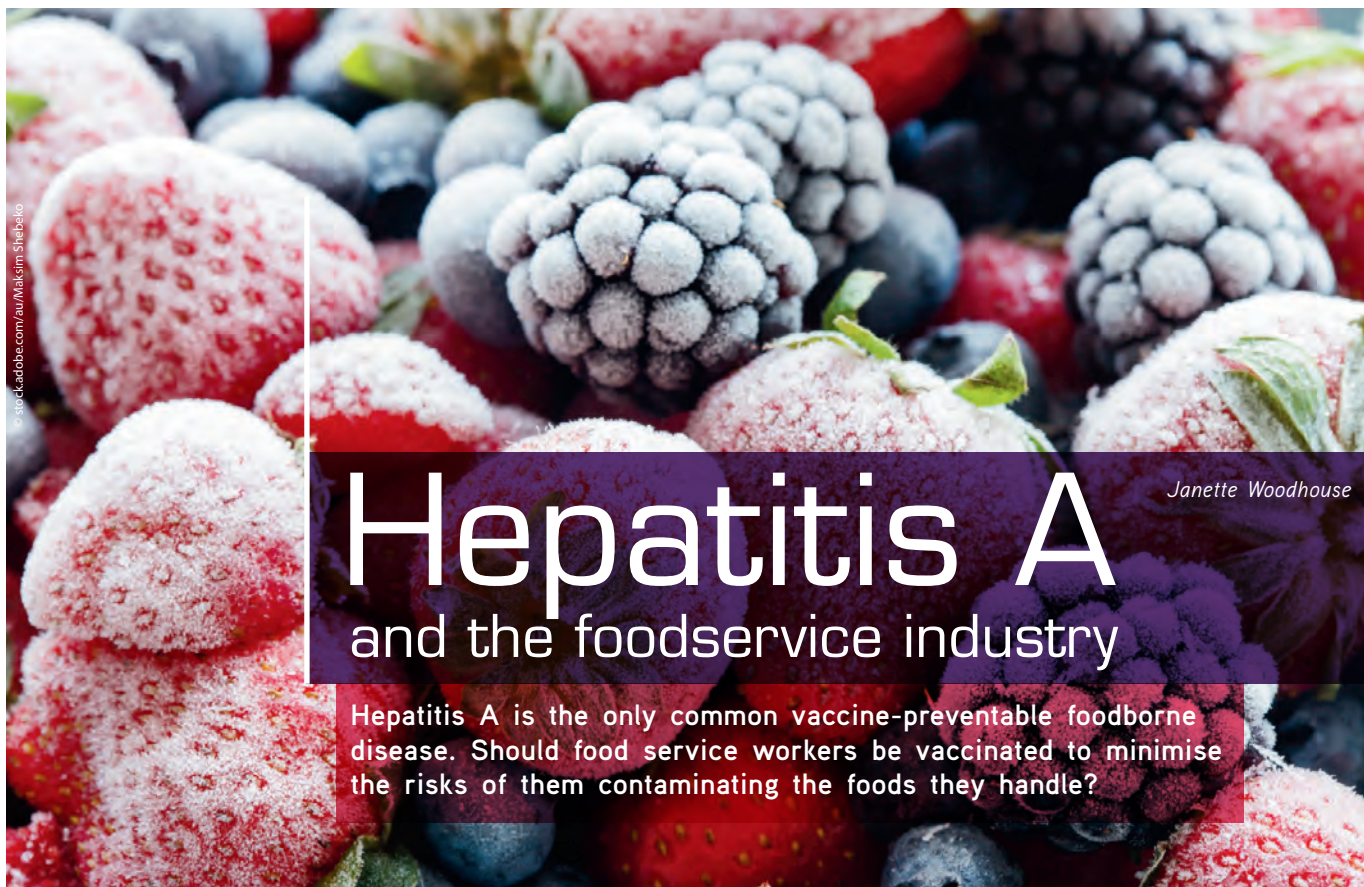
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Janette Woodhouse

Hepatitis A

and the foodservice industry

Hepatitis A is the only common vaccine-preventable foodborne disease. Should food service workers be vaccinated to minimise the risks of them contaminating the foods they handle?

Hepatitis A is a viral infection affecting the liver that spreads through the faecal-oral route. While the virus is endemic in the third world, the hygiene and sanitation practices in the developed world mean that most people in Australia and New Zealand reach adulthood without having been exposed to the virus.

According to the Hepatitis Australia website: "Infection resulting from contaminated food or water, or an infected food handler is rare in Australia." However, infection via this route is certainly not unknown. Only last year, berries sourced from China and Chile and repackaged at Patties Foods' Victorian facility were implicated for causing a hepatitis A outbreak and in New Zealand Fruzio Mixed Berries were recalled due to hepatitis A contamination. Now, in the US, frozen strawberries from Egypt have sickened at least 140.

And it is not only frozen berries that have been the source of hepatitis A outbreaks.

- Five died, one required a liver transplant and 500 were sickened by green onions imported from Mexico in 2003.
- 165 were sickened by frozen pomegranates from Turkey.
- Epidemiological and laboratory findings suggest a sweet pastry salesperson contaminated products while packing and

selling them in Lower Saxony, sickening 83.
• 10 cases of epidemiologically linked hepatitis A involved a food handler at a ready-to-eat foods cafe in Melbourne.

Bill Marler, managing partner of Marler Clark, a Seattle, Washington, based law firm that specialises in foodborne illness cases, is advocating that foodservice workers should be vaccinated against hepatitis A.

Being resistant to heating and freezing, the hepatitis A virus can survive for several hours outside the body and persists on the hands and in food for even longer. Compounding this is the problem that those with the disease are infectious for about two weeks before they develop any symptoms. So they can be handling food and spreading the disease before they are aware that they are infected. In fact it takes 15–50 days for symptoms of hepatitis A to show after infection (average time 28–30 days).

The world is no longer a large place. More and more foods are shipped around the globe, many from developing countries, and people are also travelling internationally to an extent never before seen. It is easy to pick up hepatitis A when travelling to less developed countries, come home, go back to work in the food industry and contaminate a lot of food before you develop symptoms.

Vaccination for hepatitis A is two injections and there are very few side effects — pos-

sibly a redness on the injection site or a mild fever. The Australian Immunisation Handbook (NHMRC 2008) recommends hepatitis A vaccinations for:

- travellers to endemic areas, which means developing countries;
- all Aboriginal and Torres Strait Islander children between 18 months and six years of age in north Queensland;
- workers in rural and remote Indigenous communities;
- child day-care and pre-school personnel;
- the intellectually disabled and their carers;
- healthcare workers employed in paediatric wards, intensive care units and emergency departments that provide for substantial populations of Aboriginal and Torres Strait Islander children and nursing and medical staff on rural and remote Indigenous communities;
- sewage workers;
- men who have sex with men;
- injecting drug users;
- patients with chronic liver disease of any aetiology; and
- patients with haemophilia who may receive pooled plasma concentrates.

As many prepared meal manufacturers' clients are among the most vulnerable in society already, I'm inclined to agree with Bill Marler — vaccination should be the go. ☐

Can technology and gourmet menus reverse the decline of fast food?

Are millennials shunning McDonald's? Do hipsters avoid Hungry Jack's? Research by Roy Morgan reveals that Generations Y and Z are still markedly more likely than older generations to visit most big-name quick service restaurants, but in many cases their visitation rate is declining.

Between 2012 and 2016, the proportion of Australians visiting McDonald's at least once in an average four weeks has declined from 31.2% to 29.4%, a trend that is seen across all generations. At rival chain Hungry Jack's, the total proportion of visitors remained generally steady, with slight declines in visitation by Gen X and baby boomers, and a more pronounced decline in Generation Y (from 19.2% to 16.5%) offset somewhat by growth among Gen Z customers, (from 15.7% to 16.8%).

The decline in visits to mainstream burger chains has so far not benefited the more niche and gourmet-oriented burger chain Grill'd, which has seen a slight increase among Generation X visitors, a noticeable drop among Gen Y (from 8.0% to 5.4%) and little change among Gen Z.

However, the proportion of Generation Y who pay at least one visit to 'other' hamburger outlets in an average four weeks has grown from 4.7% to 6.4%, suggesting they could be frequenting either the smaller, hipsterised burger chains or the no-frills, family-owned outlets.

KFC still rules the roost in the world of fast-food chicken, but the proportion of Australians visiting the chain at least once in an average four weeks has slipped slightly, from 20.4% to 19.3%. KFC's popularity is strongest with Gens Y (23.9%) and Z (26.2%). Meanwhile, Generation Y (9.1%) outstrips the older generations for visitation to Red Rooster; but Gen Z (6.0%) is below average. The smaller, more epicurean chicken chains Nando's and Oporto are more popular with Generations Y and Z than with their elders, but their popularity has mainly declined since 2012. Unlike burger restaurants, there is no obvious shift towards 'other' hot chicken shops.



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The Sunshine gluten-free range of sauces includes BBQ, hickory smoked BBQ, honey chilli, hot chilli, sweet chilli, Worcestershire, soy and tomato.

Available in 3 L packs, the sauces are locally manufactured and are suitable for use as condiments, marinades or dipping sauces.

Steric Trading
www.steric.com.au

Vegetable spiral cutter

The Kronen SPIRELLO 150 cuts vegetables into decorative spirals to create 'vegetable spaghetti'.

With up to 680 rpm, the machine cuts vegetables into metre-long spirals, which can also be shortened with a length-limit knife via interval switchings (seven levels).

The system is suitable for a wide range of vegetables, including carrots, potatoes, pumpkins, radishes, beetroot, zucchini and celeriac.

The machine is equipped with removable magazines, one of which can be fitted with the raw product while the vegetable in the second magazine is processed, enabling the machine to be operated without interruption.

The vegetable is held by product centring supports which are adapted according to the user's wishes. Products can be processed with a diameter up to 153 mm, a length up to 300 mm and a weight of up to 2.5 kg.

An automatic separation system differentiates between product and waste product. Vegetables are scored with minimal waste, as the entire vegetable product is cut in spirals apart from a small piece from the top. An optional discharge conveyor provides fast outfeed.



Reactive Engineering Pty Ltd
www.reactive-eng.com.au



Snacking habits of millennials an opportunity for food brands

Young adults are the biggest snackers, according to research released by Canadean, with 40% of 18- to 34-year-olds engaging in regular snacking. But rather than an extra treat on top of regular meals, the practice is part of an emerging trend dubbed 'modular eating', which is replacing the traditional practice of eating three meals a day, according to the market research company.

The company's latest report finds that consumers snack for a variety of reasons such as the functional need for an energy or nutritional boost, the psychological need to de-stress or indulge, and needs dictated by occasion, such as watching a movie, attending a sporting event or socialising with friends.

And as more consumers turn to snacks, the potential opportunities for snacking brands grow across the health-indulgence and sweet-savoury spectrums.

Katrina Diamonon, principal Consumer Insight at Canadean, explained: "While it is important for brands to acknowledge and address the snacking needs of all consumers, it is particularly crucial to understand the motivations of younger consumers. Not only are they more frequent snackers, but their purchase behaviours and preferences will strongly influence other current consumers and also subsequent generations as they pass on these traits to their children."

As millennials tend to prioritise meat in their diets more highly than their older counterparts due to its perceived health benefits, Canadean believes manufacturers should capitalise on the meat snack segment and explore new opportunities.

"Improved sourcing transparency and ethical production of such offerings is also enhancing premium credentials," said Diamonon.

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Pleasurable eating and portion size

Focusing on the pleasure of food makes people want smaller portions. While this sounds very contradictory it has proven to be so.

If the consumer is motivated by the fear of being hungry or achieving value for money they will gravitate to larger portion sizes. But if they are enticed by taste they are more likely to choose smaller, healthier portions. The first sips of wine or the first mouthfuls of food are the most enjoyable. The more you eat the less the pleasure in each successive mouthful.

People will choose smaller portions of chocolate cake when they are asked to

vividly imagine the multisensory pleasure (taste, smell, texture) of similar desserts according to research published in the *Journal of Marketing Research* by Pierre Chandon, the L'Oréal Chaired Professor of Marketing, Innovation and Creativity at INSEAD and Yann Cornil, Assistant Professor of the Sauder School of Business, University of British Columbia.

Chandon and Cornil show that unlike health warnings, multisensory imagery does not reduce expected eating enjoyment





Having more descriptive menus or product labels that encourage customers to use their senses can lead to positive outcomes for consumer satisfaction and health, but also for profits.

or willingness to pay for the food. In fact, people are happier to pay more for less food.

In one experiment 42 French schoolchildren were asked to use their five senses in imagining the pleasure of eating familiar desserts and were then asked to choose portions of brownies. They naturally chose portions of brownies that were two sizes smaller than the portions chosen by children in a control condition.

In another experiment, Cornil and Chandon imitated high-end restaurants by describing a regular chocolate cake as smelling of 'roasted coffee' with 'aromas

of honey and vanilla' with an 'aftertaste of blackberry'. This vivid description made 190 adult Americans choose a smaller portion compared to a control condition where the cake was simply described as 'chocolate cake'.

The study also had another condition in which people were told about the calorie and fat content of each cake portion. This nutrition information also led people to choose a smaller portion, but at a cost: it reduced the amount that people were willing to pay for the cake by about \$1 compared to the multisensory condition.

A third study showed that people underestimated how much they will enjoy eating small portions of chocolate brownies. They expected to enjoy small portions less than larger ones, when actually both were enjoyed equally. This mistake was eliminated by multisensory imagery, which made people better forecasters of their own future eating enjoyment.

"Having more descriptive menus or product labels that encourage customers to use their senses can lead to positive outcomes for consumer satisfaction and health, but also for profits," said Cornil. □

Do you know why you should eat your veggies?

Most of us know we're supposed to eat five serves of vegetables a day, but how many of us actually do it? About 6%, according to a recent study, whose author suggests that most of us don't understand enough about the nutritional benefits of vegetables, and better labelling could provide the answer.

With a few exceptions — it's commonly known that carrots are good for vision and spinach contains iron — a survey conducted by University of Sydney PhD candidate Reetika Rekhy found that respondents did not have a good understanding about specific nutritional benefits of most vegetables.

"It's possible that with labelling the health benefits of specific vegetables on retail packs, point-of-sale advertising and other marketing collateral, this could change," she said.

Rekhy, from the School of Life and Environmental Sciences at The University of Sydney, said the knowledge that you should eat your vegies has not proven sufficient; consumption even in developed countries falls short of the daily intake recommended by the World Health Organisation. The findings of the study have been published in *Nutrition & Dietetics*.

Did you know?

The Australian Guide to Healthy Eating recommends people eat two to eight serves of vegetables and legumes each day, based on age, physical activity levels and body size.

One serve of vegetables is described as about one cup of uncooked or half a cup of cooked or canned vegetables/beans. Potatoes and other starchy tubers are not considered vegetables for the purposes of the requirements but tomatoes, although officially a fruit, are included in the vegetable count. Some of the benefits that could be promoted more widely include:

1. Carrots: Healthy vision; heart; bones and joints; brain and nervous system; immune system; skin.
2. Broccoli: Healthy bones and joints; brain and nervous system; heart; immune system.
3. Asparagus: Healthy bones and joints; brain and nervous system; heart; hydrate your body; immune system.



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Are parents who buy ready meals very busy, or just terrible cooks?

'Lack of time' is often cited by parents as a reason for purchasing ready-made meals for their families, and many marketing campaigns attempt to capitalise on that. But a study published in the *Journal of Nutrition and Behavior* has found that being busy is merely one contributing factor in the choice of convenience meals.

Researchers have assessed the reasons why parents buy ready-meals for their families and tested these reasons against sociodemographic factors, as well as the cooking and meal planning abilities of participants.

Previous research found significant associations between the purchase of ready-meals and employment, but this study suggests that employment only had an effect on one of the reasons parents gave for buying ready-meals: "I don't have time to prepare other foods."

The researchers found that parents from all social backgrounds endorse reasons for buying pre-packaged food, and parents' perceived meal planning and cooking abilities may be the most common underlying cause of these reasons.



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Electric convection ovens

The serieF-Fanbake from Moretti Forni is a family of electric convection ovens suitable for bakeries and patisseries.

All models are equipped with double-tempered glass door, stainless steel interior, control panel without protrusions for easy cleaning and sophisticated electronics with whitebrite display.

The F80E is a versatile electric convection oven with five trays, suitable for small bakeries and patisseries. The alternating ventilation system provides cooking consistency with the possibility of adjusting the quantity of steam.

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Large catering enterprises can turn food waste into energy

Emerson's innovative large-scale food waste recycling system, Grind2Energy, puts food waste to work — by converting it into energy.

At the Huntington Convention Center of Cleveland (US), large amounts of food waste is ground on-site and converted into a slurry using an industrial-strength InSinkErator grinder. The quasar energy group, a full waste-to-energy company, then transports this material to one of its local anaerobic digestion facilities to extract methane for energy production and to produce a nutrient-rich soil amendment.

The environmental benefit is significant, and that impact adds up for bigger venues: commercial kitchens produce on average more than 1800 kg of food waste a week. According to United Nations estimates, as much as one-third of the food we produce globally is wasted each year. If half of this food waste (15 million tons) went to anaerobic digesters instead of landfills each year, the carbon emissions equivalent of about half a million automobiles would be removed.

The Cleveland Convention Center is just one of many local institutions to introduce the Grind2Energy system. Grind2Energy came to the city in a major-league way when the

Cleveland Browns put the technology to use at FirstEnergy Stadium in 2013.

"We're committed to being as green as we can, and Grind2Energy helps us achieve that in ways we never thought possible," said Mark J Leahy, general manager of the Huntington Convention Center of Cleveland and Global Center for Health Innovation. "As a large and busy event space with multiple kitchens going every day, Grind2Energy is an area where we can make a big impact — on our food waste, energy and the planet."

"Cleveland has emerged as a strong partner and leader in the effort to expand this groundbreaking technology to turn global food waste into a renewable energy," said Chad Severson, president of InSinkErator, a business of Emerson. "We hope more cities follow their example of environmental stewardship and advocacy."

Results from Cleveland and other Grind2Energy early adopters have demonstrated the solution's ability to reduce landfill waste, generate significant energy from renewable resources and reduce greenhouse gas emissions into the atmosphere, all at costs equal to or less than composting or other environmentally friendly options.



Prison food system wins award

The US Environmental Protection Agency's Food Recovery Challenge encourages organisations to both improve their sustainable food management practices and report their results. Challenge participants are encouraged to prevent and divert wasted food in their operations. They follow the Food Recovery Hierarchy, which recommends:

- prevention,
- donation,
- composting and/or anaerobic digestion.

This year the Philadelphia Prison System was recognised for its innovative food recovery achievements that include composting 1.35 tons of wasted food each day and saving the City of Philadelphia US\$31,000 each year in landfill fees.

The city was among more than 800 governments, businesses and organisations across the US that participated in the 2015 EPA's Food Recovery Challenge. These entities diverted food waste from entering landfills or incinerators through a variety of innovative actions.

"The Philadelphia Prison System sets a tremendous example on using innovation to reduce food waste," said EPA Mid-Atlantic Regional Administrator Shawn M Garvin. "Businesses and communities across America are taking positive steps to address the food waste challenge, and they're saving money, helping the environment and feeding hungry people in the process."

The city received special recognition for its achievements nationally under the innovation category. Along with the composting, the Prison System's food recovery program provides inmates with hands-on job training in horticulture and urban gardening on-site at the Orchard Program located on property behind Philadelphia Industrial Correction Center on State Street. Nationwide, Food Recovery Challenge participants diverted nearly 606,000 tons of wasted food from entering landfills or incinerators in 2014, nearly 88,600 tons of which were donated to people in need.

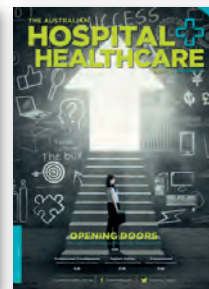
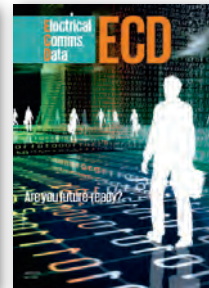
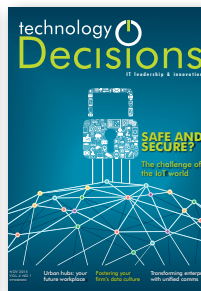


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metos

Development in the Metos Manufacturing range is based upon a deep understanding of the customer and their business operations. This, combined with more than 90 years of profound technological experience, has developed the Metos Manufacturing perception of a kitchen as a whole where state of the art systems and professional equipment add value beyond single products.

Multifunction production tool. Strong hygienic auto-reverse mixer for all mixing, also whipping (140 rpm). The mixer is easy to remove thanks to the clean lifting handle. Removable scrapers. All parts are dishwasher proof.

HACCP (Optional)

Facility for HACCP connection.
Wireless connection option for more flexibility

Groupable kettle pillars

Can be connected to the control pillar of other Metos kettles

Safe electric tilting.

200-400 litre kettles have strong hydraulic tilting. Safety functions and withdrawal function as standard.

600 mm tilting height

for better ergonomics and flexible decanting solutions

Robust stainless steel lid. All parts are easily adjustable, removable and dishwasher proof. A safety grid lid comes as standard.

Easy-To-Use raised panel with "Press-And-Select"- logic and central dial. A self explanatory display. With the CSFP parameters kettle functions can be changed to suit needs.

Multistep mixing programs tested by professional chefs.
99 user specified programs.

1/1 GN workstation perfect for tools, ingredients, or standardised recipes

Hand shower

(warm/cold water) 2 options:
• Retractable (standard)
• Heavy duty

Closed cell polyurethane foam insulation for increased energy efficiency

Separation of water and power make it even easier for preventative maintenance

To find out more about **Metos Proveno**, contact Moffat Australia on 1800 023 953 or Moffat New Zealand on 8800 663 328

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