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## Contents

<table>
<thead>
<tr>
<th>Page</th>
<th>Title</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>Reinventing the microwave</td>
<td>New oven technology is promising a whole lot more for volume meal producers.</td>
</tr>
<tr>
<td>10</td>
<td>How ready is your ready meals facility?</td>
<td>The days of frozen pizza and pasta as the only options are far behind us.</td>
</tr>
<tr>
<td>12</td>
<td>Too much food, not enough nutrition</td>
<td>Community Chef has collaborated with CSIRO and FIAL to better meet the nutritional needs of the aged and disability care sector.</td>
</tr>
<tr>
<td>17</td>
<td>What are your problems?</td>
<td>Can we all band together and work out some best practice hygiene and sanitation solutions for the food and beverage industry?</td>
</tr>
<tr>
<td>26</td>
<td>Preparing and delivering 1 million meals per year</td>
<td>Increasing food standards regulation plus a growing client base were making it hard for small, individual, council-run kitchens to keep up with evolving expectations and demands.</td>
</tr>
<tr>
<td>33</td>
<td>Coding trends and technologies for ready meals</td>
<td>Manufacturers in the growing ready meals sector are facing increasing challenges regarding labelling and coding.</td>
</tr>
<tr>
<td>37</td>
<td>Make mine tomato juice</td>
<td>Taste preferences in noisy places like jettliners.</td>
</tr>
<tr>
<td>41</td>
<td>Stopping salads being deadly</td>
<td>Leafy greens and uncooked vegetables bring with them a high risk of food poisoning.</td>
</tr>
<tr>
<td>46</td>
<td>The Australian Vinegar story</td>
<td>Australia’s first dedicated vinegar-making facility.</td>
</tr>
<tr>
<td>49</td>
<td>Monitor temperatures to improve food safety</td>
<td>There are temperature management, alarm monitoring and reporting systems available today that can ensure your food is safe for consumers.</td>
</tr>
<tr>
<td>50</td>
<td>Would you like crickets with that?</td>
<td>Or why insects could be the next protein source on your plate.</td>
</tr>
</tbody>
</table>

**READ ONLINE!**

This issue is available to read and download at:

Welcome to your new ready meal information source

The ready meals in the supermarket are just the very tip of the ready meals/prepared food market. Hospitals, airlines, prisons, defence, boarding schools, convention dinners, remote area mines, aged care, room service... ready meals are ubiquitous. Millions of ready meals are served across Australia and New Zealand weekly.

Ready to heat, ready to eat — consumers love the convenience. And consumers are not willing to accept miscellaneous mush anymore. Lots of prepared meals are gourmet quality and designed with the dietary requirements of the consumer in mind. Gluten-free, kosher, low salt, high energy, preshooler, peanut allergy, vegetarian — there is a prepared meal supplier with products designed to meet your requirements.

Starting with the frozen TV dinner in the 1950s, ready meals have moved on. Ready meal providers bridge the gap between food manufacturers and restaurants. However, it isn’t all plain sailing. Designing, preparing, plating or packing and distributing prepared food is not for the faint-hearted. Always lurking in the background is the spectre of foodborne illness, mislabelling of allergens, failure to meet safety regulations...

Once a food preparation operation moves out of the domestic kitchen, food safety becomes paramount. The recent Salmonella outbreak at Melbourne’s Langham Hotel where uncooked egg in mayonnaise sickened 130 provides a salutary lesson to all.

This is why we have launched Prepared Food. The bimonthly magazine, website and eNewsletter will be editorially focused on everything you need to know as a supplier to, or a buyer of, prepared food products. When researching this magazine we couldn’t find another Australia/New Zealand-based news source that concentrated on the specific needs of the high-volume caterer.

We hope you find this magazine and its associated eNewsletter a useful source of the latest news and trends in the industry.

And, you are an industry — actually you are part of a growing industry.

If you want to get every issue of the magazine and the eNewsletter each week, you will need to register with us. Both the magazine and newsletter are free to those involved in the ready meals/high-volume catering industry in Australia. The fastest way to register is to visit www.foodprocessing.com.au/subscribe and select the Prepared Food options.

Launching a new magazine involves a host people and I’d like to thank everyone involved with a very special thank you to Adrian Farrow without whom the magazine would still be an idea not a reality.

I hope you enjoy this first issue of Prepared Food.

Kind regards

Janette Woodhouse
Chief Editor
Westwick-Farrow Media

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That’s why products from these well respected manufacturers and many more carry the mark.

www.haccp.com.au
Reinventing the microwave:
new oven technology is promising a whole lot more for volume meal producers
Imagine loading rows of plated raw meals into an oven and coming back 10 minutes later to serve meals cooked to each consumer’s order. All done simultaneously in one pass through the oven. Currently, microwave ovens are primarily used for reheating or preparing convenience foods. However, domestically their use is declining as consumers have reservations over food zapped by radiation combined with the quality/taste problems inherent in microwave cooking.

Microwaves tend to evaporate moisture, turning already low-moisture foods — like bread and many other carbohydrate-based items — into hard, inedible blocks. Even with foods that should be well suited to microwave cooking — like soups and stews — quality issues prevail. Unlike conventional ovens, microwaves cook from the outside in, so the temperature differences between different portions of the same food can be significant.

Microwaves are powered by a magnetron that sends out the microwaves in any and all directions and whatever it hits gets ‘cooked’. Each oven can have only one magnetron, so there is no accounting for different food products that require different temperatures and different cooking strengths. Even when you are pressing the settings for different foods on the keypads of better quality microwaves, all you are doing is essentially changing the on/off cycle of the waves without regulating their strength.

Enter RF technology
But new technology is about to change all of this, making it possible to put all the raw ingredients of a complete meal on a plate and in one pass through the system, cook each individual item to perfection.

Even more astonishingly, large commercial versions of the ovens could simultaneously cook steak and vegetables for a group and have each steak cooked to individual specification.

This revolution in cooking and meal preparation is based on using RF energy.

Over the last few years, Freescale Semiconductor has been stealthily working with Israeli start-up Goji Solutions to help it develop the oven concept based on so-called volumetric cooking. Here, an array of RF amplifiers and antennas are controlled in phase, frequency and amplitude for a spatially controlled energy delivery within the oven’s cavity (through sequenced beam forming).

Although beam forming is nothing new, the novelty here is Goji’s unique Adaptive Volumetric Energy Delivery (AVED) algorithms developed to precisely drive the energy delivery to the different types of food placed within the oven, while using signal processing to sense the different RF absorption and resonance levels within the cavity and adjust the cooking parameters in real time.

Freescale’s solid-state RF power transistor products make it possible to have multiple RF chips in an oven, with each chip operating independently — and small enough to beam in on specific foods. Added to this RF technology, Goji has added very precise sensors that can detect the make-up, thickness and moisture levels of foods and, using their database of cooking powers and times, can beam RF frequencies to specific foods, and even specific parts of foods — so that users get the same stable temperature, and the appropriate power and strength, regardless of whether they are cooking peas or thick roasts.

The oven is able to constantly and spatially adjust energy delivery so effectively that it is possible to prepare a typical dinner in a single oven all at the same time. Users simply come back in 15 minutes to find everything cooked perfectly.

Goji’s core energy-delivery technology can be used for cooking foods with...
This cutting-edge technology can be integrated into systems suitable for commercial facilities, residential kitchens or volume food production operations.

Heating control in the new ovens being developed by Goji is so accurate that a whole fish can be cooked inside a block of ice without melting the ice.

or without other heating methods. This cutting-edge technology can be integrated into systems suitable for commercial facilities, residential kitchens or volume food production operations.

It is anticipated that RF-powered ovens will first be sold on the commercial market, and they will probably be quite expensive. Prices will reduce as people see the ovens in action in restaurants, hotels, schools and any other place where getting tasty food out quickly is essential and want one at home. This commodification will lead to mass production and the usual benefits this creates.

In the case of large professional ovens, it is envisioned that several rows of dishes will be cooked in a single pass with each dish customised to meet the consumer preference, meats rare, medium or well done all cooked simultaneously.

Goji is already in talks with several manufacturers of consumer products for mass production of ovens based on this technology and they are expected to hit the market towards the end of 2016.

Recently, Goji Israel Food Solutions showed off its oven to about 600 people, who applauded when they pulled a fully cooked dinner out of the oven, consisting of a perfectly cooked salmon fillet, potatoes, couscous and cherry tomatoes 10 minutes after all the items had been put inside on a single tray — raw, and in the case of the fish and couscous, frozen. Each item was perfectly cooked and had a bevy of thermometers recording its external and internal temperatures.

Then the Goji oven worked on a whole salmon frozen in a block of ice; and when the cooking cycle was done, the block of ice was opened to reveal a perfectly cooked, steaming fish, with an internal temperature of 70°C.

With a Goji-enabled professional oven, commercial kitchens and food service providers will be able to prepare food like never before. Goji-enabled ovens will prepare food in a fraction of the time of conventional methods, greatly increasing yields without compromising quality.

The ovens will be used to cook, bake and roast various foods simultaneously with all cooked to perfection at same time.

Watch this space as the reinvented microwave becomes a must-have reality.
Check out our inspection technologies for better product quality.
persistent demand from health and cost-conscious, time-scarce customers is continuing to drive growth in the Australian ready meals sector. Recent reports show the current value of sales of ready meals in Australia in 2014 is projected to grow by 3% to reach $1.4 billion. Now, more than ever, it is imperative that manufacturers of these hot ticket products are plotting out the optimal course for the future of their operations.

1. Start with a blank canvas
When planning for a new facility, give serious consideration to a greenfield site over a brownfield site wherever possible, to provide more flexibility and satisfy the inherent complexities of the different processes that make up your ready meals facility.

2. Get to know thyself
The single most important key to saving time and money in the later stages of any project is doing as much investigatory work as you can early in the project process. Be clear and let your design be enhanced and evolved by knowing exactly what you need now and as far into the future as you can effectively plan by conducting discovery workshops with all stakeholders.

Identify and agree on your business and project needs to ensure that the detailed design precedes construction and caters for critical project delivery outcomes. For example, clearly defining the deadlines for product launch will allow for programming adequate time for the commissioning and testing of your equipment and product.

This information will minimise last-minute changes that can add significant time and cost to the project. Furthermore, it allows for more complete subcontract scopes of work, which provides more control over budget and variations.

3. Master your plan
Futureproof your facility by engaging in master planning. Take an eagle-eye view of your operation to accommodate for growth over time and successfully meet increased demand and technological advances. This includes building in flexibility for expansion or modifications to processes as the products vary over time or seasonally to suit the demands of the consumers.

From a retail perspective, manufacturers looking to compete for shelf space in the big supermarkets need to plan and design their facilities and products to meet these retail giants’ stringent production and food safety requirements. This is critical given the fact that these big retailers are currently holding a magnifying glass over their supplier lists, in search of new and innovative brands serving on-trend consumer tastes, such as organic and low-GI food.

Also, consider the importance of building in more than just the process necessary to produce your product. Can your design accommodate quality assurance laboratories to track shelf life or research & development and test kitchen facilities? This is vital if you are exporting and are required to meet international standards.

4. How many cooks in your kitchen?
Ready meals facilities involve a wide range of food preparation processes. Therefore, it is important to identify the cooking processes and equipment early and obtain the most accurate information from the suppliers in terms of configuration, services requirements, location of connections, specific ventilation requirements and output volumes to assist with the design of services and layout to accommodate all aspects.

This information will also address contamination risk by defining the segregation of staff hygiene levels for low-risk (pre-cooked/raw) and high-risk (cooked) materials, as well as access and traffic flow for engineering, process line and administration employees.

5. Let it flow, let it flow
Materials and product flows need close scrutiny early in the project concept phase to ensure that time and space is not wasted during the construction and operational phase. Product should flow through the facility from receipts through preparation, processing, cooking, chilling, assembly, packaging and distribution as an orderly, efficient operation.

Also, take this time to coordinate product flow paths with personnel access and egress, to optimise integration, mitigate conflicts and maintain crucial hygiene segregation of products, packing materials, waste and people.

The days of frozen pizza and pasta as the only options are far behind us. Ready meals are firmly set as a cornerstone of the modern eating experience. The increasingly fierce challenge for manufacturers is to develop innovative, nutritious and delicious meals of the highest quality that can be prepared with minimal fuss and time. So the big question is... how ready is your ready meals facility to accept this challenge?

Bill Thompson, Project Manager, Wiley & Co Pty Ltd
Too much food, not enough nutrition

The elderly, people with a disability, hospital patients and aged care residents are the most at risk for poor nutrition. Community Chef, the largest provider of prepared meals for the aged and disability care sector in Australia, has collaborated with CSIRO and Food Innovation Australia (FIAL) to better meet the nutritional needs of society’s most vulnerable members.

Feedback from Community Chef’s clients was that current meal sizes were too large, leading to food waste and inadequate daily nutrition. Some clients reported skipping meals so as not to waste food, further reducing their daily nutritional intake.

The company needed a process for modifying its recipes to increase the nutritional density and reduce the portion size of meals but still conform to or exceed the Commonwealth and Victorian Government Home and Community Care (HACC) guidelines.

Nutritional profiling and assessment of meals
CSIRO dietitians, trained in nutritional profiling of foods and food components, assessed and remodelled some of the company’s most popular menu items against HACC guidelines and the nutrient reference values set by the National Health and Medical Research Council.

They looked at total energy, protein and a range of macro- and micronutrients of concern for the aged population at risk of malnutrition, such as fibre, zinc, iron and calcium.

They developed recommendations for the energy and protein required for nutritionally dense, reduced-portion meal components — such as soups, desserts and sides — to assist the company with future recipe development.

Increasing the nutritional density of prepared meals
The nutritional density of many dishes was increased by fortifying recipes with whole foods and whole food additives such as skim milk powder, enabling Community Chef to reduce the portion sizes slightly and reduce food wastage.

The CSIRO’s recommendations set a benchmark for defining the appropriate energy and protein content of various meals, which allows the company to mix and match meal components and still meet the nutritional requirements of the meal overall.

It also became clear that the current Home and Community Care meal service guidelines, which are now more than 30 years old, may need revising owing to considerable changes in life expectancies and dietary, social and cultural behaviours which could affect the specific dietary requirements for aged populations.
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Universiti Putra Malaysia researchers have developed Afdhal Oil, an extract that they claim can reduce the oil absorbed in fried food by up to 85%. Project head Professor Dr Suhaila Mohamed from the Institute of Bioscience claims that only 10% of cooking oil needs to be replaced with Afdhal Oil to reap the benefits. Not only is less oil absorbed by the food but the extract also is claimed to prevent oil spoilage, allowing the same oil to be used more than 80 times.

Afdhal Oil is a blend of natural herbal extracts. Based on palm oil it includes citrus/rue (Rutaceae) extracts which are responsible for the product’s antioxidant properties. Other claimed features of the oil include antibacterial and antihistamine activities. The natural oil is free from trans fats, synethetics or cholesterol.

Research into the product commenced in 2008 and is ongoing. Patent protection in Australia and a number of other countries has been obtained. Afdhal Oil is available for purchase on lazada.com.my.

KNORR Pronto Napoli Sauce is an authentic Italian Napoli base sauce made from more than 6 kg of sustainably grown tomatoes from Italy’s gastronomic Emilia Romagna region. The tomatoes are reduced and cooked to a unique recipe. The sauce is suitable for use in all tomato-based dishes including pastas, pizzas and soups.

With 95% tomato content, a beautiful red colour, real tomato chunks throughout and a fresh tomato flavour, the sauce is lightly seasoned, with no overpowering herbs or spices, just a touch of lemon.

Users can customise to the needs of their dish, secure in the knowledge that the product is free from artificial colourings, flavourings and preservatives.

The sauce is available in 4.15 kg cans.

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Crafted from Australian wine on the Granite Belt in south-west Queensland, premium LiraH vinegar is produced by vinegar maker Australian Vinegar, using a blend of innovative and traditional vinegar-making styles to deliver fresh and distinctive vinegars.

The vinegars are natural, gluten-free and most are allergen- and sulphite-free.

The LiraH foodservice range provides professional chefs with an Australian alternative to imported vinegars. Foodservice products are delivered in unbreakable PET bottles for convenience and food safety.

The range includes: balsamic and wine vinegars (Sauvignon Blanc, Oak Aged Shiraz, Australian Balsamic, Sweet Apple, Sweet Cabernet, Sweet Spiced Merlot, Sweet Chardonnay); verjuice (Chardonnay, Nebbiolo); and caramelised balsamics (Caramalised Classic, Caramalised Apple, Caramalised Fig).

Australian Vinegar
www.australianvinegar.com

**Organic sauces**

Australian organic sauce manufacturer OZGANICS has released its catering pack range. Developed over 15 years ago by founder Anni Brownjohn, the recipes are batch prepared by chefs in the company’s Tweed Valley kitchen.

The organic, gluten-free and dairy-free dressings and sauces are suitable for catering to the health-conscious consumer. A sugar-free range of pasta sauces and salsas is also available. Packaged in an easy-to-pour 2.4 L jug, the sauces enable quick preparation of wholesome, organic meals.

The Right Food Group Pty Ltd
www.ozganics.com.au

**Low shear agitator**

The energy-saving Alfa Laval ALS side-mounted agitators feature the EnSaFoil impeller. The specially designed impeller blades uniformly blend food product within the tank across the entire length and width of the blade. This makes it possible to reduce agitation speed, minimising shear stress and preventing damage to sensitive food particles.

The hygienic design of the impeller makes it easy to clean, reduces the amount of heat absorbed by the food product and cuts energy costs.

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What are your problems?

Janette Woodhouse

Can we all band together and work out some evidence-based, best practice hygiene, cleaning and sanitation solutions for the food and beverage industry?

The answer is "Yes". Introducing a new cleaning and hygiene leadership forum where the critical issues in food and beverage preparation will be discussed.

What are the critical issues that your food and beverage business is experiencing? Do any of these sound familiar?
1. Food and beverage regulatory requirements
2. Hygiene program development
3. BRC compliance
4. Audit preparation
5. Listeria control in low moisture environments
6. Extending product shelf life
7. Sustainability improvements through energy and water use reduction
8. If so, you are definitely not alone. All of us in the food and beverage sector face many similar problems and all of us want the best, most practical and most affordable solutions. But how do you find them?

Some of us have solved one issue but are stumped with another, while others have a nifty solution to the problem we are challenged by, but in turn are troubled by an entirely different problem.

With a bit of networking and communication we could pool our knowledge and all be winners.

Enter Jasol’s sponsored series of free forums addressing the major issues challenging the food and beverage industry.

Problem-solving roundtable just for ready-meal and high-volume caterers

Industry stalwart Jasol, along with Prepared Food, is hosting a series of industry-specific roundtables specifically to address the major challenges facing ready meal creators/suppliers and high-volume caterers. By gathering together a team of industry professionals, we intend to find out the front-line facts and then present best practice information to the readers of Prepared Food.

But we want you, and others actively involved in the industry, to set the agenda.

We want you to let us know what topics you would like to know more about. So:
• What are your problems?
• Do you have expertise or experience that sheds light on new trends and issues that are known to be problematic?
• Would you like to attend one of the forums?

The first forum will be held in Sydney in November, with subsequent events in Melbourne and Auckland.

We’d like you to be involved — either by sending in agenda items or nominating to attend. Just visit www.preparedfood.com.au and register your interest.

Participation in the ‘HyGenius cleaning and hygiene leadership forum’ will be completely free, but numbers are limited so nominate to attend now.

Jasol Australia

www.jasper.com.au

HyGenius Cleaning and Hygiene Leadership Forums

Join industry leaders in a series of free forums addressing the critical issues being faced in the food, beverage and ready meals/high-volume catering industries

• Sydney Nov 2015
• Melbourne Feb 2016
• Auckland May 2016

If you would like to suggest a topic, attend a forum, provide expert comment or simply have a great idea, please visit www.preparedfood.com.au and register your interest.
Creating an effective package design is one of the simplest and most cost-effective ways to grab attention but this requires originality, creativity and the ability to connect with consumers.

Originality
Most consumers are not readily open to changing their purchasing habits or experimenting with new products. When introducing your product you need to ensure that packaging is visually pleasing and representative of the actual product. The package should uniquely display the product through colour, size and/or logos.

Point of difference
Packages that are different tend to stand out. Using unusual colours, containers and catchy phrases are all effective ways to attract consumers’ attention. You can reap substantial rewards by using packaging design to market the same product to multiple target groups. Product packaging can give new meaning to the same product for different consumers. It is important to note, however, that creative packaging is no substitute for a great product.

Connecting with consumers
Your package design must demonstrate a fulfilment of a need of some sort, as well as the benefits of choosing your particular product. Your package should elicit emotion from your consumer, whether it is happiness, serenity or even hunger. If there isn’t a feeling of excitement or necessity, the product will not sell. Consumers like to feel that a company is in touch with their specific needs and offers them something special. You must connect with your target audience.

Effective package design keeps the consumer’s needs at the forefront while still remaining effective in demonstrating the product and its benefits. For better or for worse, your packaging design will be a significant deciding factor in whether or not your product is purchased.

Cost-effective packaging
There is probably no other area of packaging that has been less understood than cost. Although many organisations calculate the cost of the package material itself as the total cost, the true cost is, in reality, the total cost of the entire packaging system involved. A simple replacement of one component of a packaging material for a less expensive one may not be a true reduction and vice versa. The question to be asked is, “How will the change affect the entire packaging system, and ultimately increase (or decrease) sales and/or profits?”

Standardise whenever possible
All incoming packaging materials and outgoing finished packages should, where possible, be standardised. If a multiplant operation is involved, standards are an absolute necessity. If standards are changed, then clearance should come through a central authority.

Now, more than ever before, packaging technologists must design with the end in mind, how it must function, who is to use it and the easiest and most suitable format for re-use, recycle or refill.

Pierre Pienaar MSc, FAIP, CPP
Past President of the Australian Institute of Packaging (AIP)
The AIP is the professional body designed to cater for packaging technologists, engineers, designers and any other individuals who are a part of the packaging industry in Australasia. The primary function of the Institute is to offer education, training, and personal and professional development for individuals within the packaging industry; as well as cross-functional networking opportunities.
The AIP is the only association in Australia and New Zealand designed to recognise, educate, train and develop the individuals who make up the diverse packaging industry.
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Tackling food waste with sous-vide

In the Café des Amis, located in Missouri, USA, owner Guillaume Hanriot wanted to tackle the issue of food waste to reduce costs.

“We often had problems with assessing the correct amount with all dishes, which in turn meant that there were a great deal of leftovers,” recalled Guillaume.

In early 2013, the cafe introduced the sous-vide method, where meat, fish and vegetables are sealed in a vacuum bag and then cooked at relatively low temperatures of 50 to 85°C in a water bath.

“Since we package the raw foods and ingredients in vacuum bags, their shelf life has been extended to up to 30 days. Vacuum-packed food that has already been cooked has a shelf life of up to seven days,” said Guillaume Hanriot.

Café des Amis purchased a Multivac C200 vacuum chamber machine, a compact stainless steel tabletop machine with a 465 mm sealing bar. The C200 offers precise setting of desired sealing time and can store popular recipes for future use. It has a glass viewing window for accurate monitoring of the evacuation process, automatic progressive ventilation for gentle packaging of softer, liquid or more delicate products, and vacuum quick-stop in the case of burst bags. It also features a clean double-seam sever-seal. It is easy to clean due to its hygienic design with a removable sealing bar and filler plates, and the absence of corners, edges or areas for contaminants to collect. The machine is suitable for a range of products, film pouches and pouch sizes.

Thanks to sous-vide, the owner of Café des Amis can now prepare the portions without being rushed and has a better handle on portion size. The kitchen and refrigerator are cleaner because all the ingredients are stored in sealed film pouches.

Guillaume Hanriot attributes the consistently high ratings by his guests to the sous-vide cooking process and the newly structured kitchen processes. “We now have more control regarding hygiene, inventory, consistency and costs. The sous-vide method is perfect for our small kitchen. Our profit margin is now significantly higher as we are able to offer premium cuisine with fewer leftovers and waste.”

Multivac Australia Pty Ltd
www.multivac.com.au

Probiotic starter cultures

Milkovation has launched the VIVO range of probiotic starter cultures in Australia and New Zealand. Packed under ISO22000 (food safety) and ISO9001 (quality) standards, the probiotic starter cultures contain blends of probiotic bacteria sourced from suppliers in France, Germany and Denmark.

The starter cultures contain live probiotic bacteria (1-10 billion/g) and are GMO-free, gluten-free, allergen-free and certified Halal. The cultures are suitable for both dairy and non-dairy blends to create mild, fresh-tasting yoghurt and fermented beverages for direct consumption with food and drink. The products are suitable for all ages including children, adults, seniors and sportspeople.

Milkovation
www.milkovation.com
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www.moffat.com.au
www.moffat.co.nz
Stainless systems for food processing facilities

MM Kembla’s KemPress stainless systems are suitable for water and compressed air services used in food preparation and processing. The range includes Kembla Stainless Tube, KemPress Stainless press-fittings and KemDrain Stainless floor drains and modular linear channel drainage systems.

A range of fittings is available from 15–108 mm, suitable for hot and cold water, gas and industrial applications, and sustaining temperatures up to 200°C and pressures up to 4000 kPa.

The stainless joints are easily formed with no welding required. The flame-free application allows the system to be used immediately and without the need for prolonged hot work permits, as well as allowing for ease of extension should a line addition or factory expansion become necessary.

The floor drains are hygienic, durable and hydraulically efficient systems suitable for use in industrial drainage lines and food processing plants. They are available in 200 and 300 mm square and round grated versions with standard 110 and 160 mm outlets. Features include epoxy-filled edges, Watermark-compliant internal water traps, shallow or deep primary strainer baskets, tamper-proof secondary screens and a variety of gratings, including anti-slip designs to meet Australian OHS requirements.

The stainless slot drain and grated linear channel systems are available in grated channels from 110 to 410 mm widths, custom designed for each project, incorporating built-in fall and modular, bolted connections for channels greater than 4 m in length.

MM Kembla Products
www.kembla.com
AquaBotanical fruit and veg water wins innovation award

An Australian-grown, world’s-first product has been recognised for innovation by the Australian Institute of Food Science and Technology (AIFST).

AquaBotanical, the world’s first water that is harvested 100% from fruit and vegetables, won the Food Industry Innovation Award at the AIFST 48th Annual Convention in Sydney.

The AIFST was impressed with Mildura-based AquaBotanical’s innovative and patented process of utilising aqueous fraction from fruit and vegetable juice concentrate production and developing it into a water that is potable, palatable and storable.

Dr Ambrosios Kambouris, AquaBotanical’s inventor and founding director, spent five years researching and developing the product, which not only offers alternative water sources to drought-prone countries like Australia, but also has the potential to save lives in countries where clean and safe drinking water is scarce.

Outsourced labour and specialist service provision

Challenger Services Group offers outsourced labour and specialist service provision to food production facilities, including production managers as well as quality control and general management roles.

Advantages of outsourcing in a food production facility include lower operational and labour costs, fixed service costs, staffing flexibility, communication efficiency and transparency, shared innovations and economies of scale.

The company says it offers a large pool of management and labour, experienced in HACCP environments, which can be quickly mobilised to any facility type at any location.

Challenger Services Group
www.csgroup.com.au

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www.barncosales.com.au
Fresh Fodder speeds up salad production

An Orange-based producer of fresh handcrafted dips, sauces and salads, Fresh Fodder was established by Max Schofield in 2008. The company’s products are stocked in over 600 delicatessens and supermarkets throughout Australia.

In order to increase the speed and efficiency of its salad production line, Fresh Fodder recently installed a Multi-Fill Model MPFMP-060 semiautomatic volumetric depositor.

When hand-filling of Fresh Fodder’s prepared salads struggled to keep pace with demand, the company realised it was time to look for an automated solution. Fresh Fodder chose the Multi-Fill MPFMP-060 semiautomatic pocket filler as it can cater for a wide range of salad recipes that traditional filling equipment cannot handle. Salads including penne pasta, couscous, chickpeas and vegetable blends, and with a quantity of dressing, are now being deposited accurately into Fresh Fodder’s retail tubs as part of its gourmet convenience salads range.

Outputs of up to 60 cycles/min (dependent on product mix) can be achieved, saving Fresh Fodder valuable filling time and therefore reducing labour costs. Product wastage and damage have been minimised and overall presentation of the product has been maintained.

The easy-to-clean, mobile depositors are suitable for filling a variety of containers including tubs, bowls, trays, pouches and bags, and can handle a wide range of particulates, including cooked and IQF rice, cooked pasta, chopped fruit and vegetables, as well as diced and shredded meat.

HBM Packaging Technologies
www.hbm.com.au
**Rapid cleaning verification**

The Biocontrol Lightning MVP ICON is a rapid hygiene monitoring system. It consists of an ergonomic, hand-held luminometer with a colour touch screen; robust and reliable swabs; and user-friendly dashboard software for managing results.

The product is suitable for use by quality and production staff in all types of food and beverage processing environments. It can be used to rapidly verify post-cleaning effectiveness or pre-operative hygiene. Compared to traditional techniques, the system provides results in seconds and allows remedial action to be taken immediately.

The colour touch screen is easy to navigate and read, which makes it easy for operators to use. The swabs are designed specifically to reduce variability and to have maximum accuracy and precision. The dashboard software makes it easy to track and trend results, which is important for any quality management system.

Australasian Medical & Scientific Ltd
www.amsl.com.au

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**Power pallet mover**

The Mitsubishi PREMIA Power Pallet Movers are developed to perform in challenging environments and to offer a comprehensive solution to safe horizontal movement of pallets.

The pallet movers are predominantly used in warehouses with limited space. They are a compact and robust machine, suitable for the food and manufacturing industry, where warehouses are generally busy and floor space is at a premium. They are also particularly suitable for use on the back of trucks.

A sealed chassis offers protection against dirt, dust and other particles to reduce wear, while an oil-filled sealed transmission ensures reliable and quiet operation. Waterproofed features allow for outdoor use in all weather conditions, while its maximum lifting height of 135 mm is the best on the market, according to the company. This allows for easy handling on steep ramps and loading docks, even with damaged pallets.

Acceleration, speed and braking characteristics are fully programmable to suit each individual driver’s needs, providing a pallet transportation system that is easier and safer to use than manual pallet jacks.

MLA Holdings Pty Ltd
www.mlaholdings.com.au
Community Chef could not easily prepare and deliver more than 1 million meals a year to its 21 local government customer-shareholders as well as hospitals, residential aged care, retirement villages and care package clients without effective material requirements planning. Community Chef is a social enterprise that came into existence as a result of the far-sighted vision of 20 Victorian local councils (increased to 23 since commencement) that wanted to find a better way of providing high-quality, nutritionally sound, appealing meals to people requiring a Meals On Wheels service.

Increasing food standards regulation plus a constantly growing client base with diverse dietary needs were making it hard for small, individual, council-run kitchens to keep up with the continually evolving expectations and demands.

To solve the issue, the councils came together with the vision of creating a purpose-built, state-of-the-art food production facility that could produce quality-assured meals to each council for distribution. In 2009, with the support of both the state and Commonwealth governments, Community Chef was born. It is a leading example of a shared service model.

In November 2010, the award-winning Community Chef kitchen produced the first meals for five of the council shareholders. It now prepares and delivers more than 1 million meals a year to its 21 local government customer-shareholders as well as hospitals, residential aged care, retirement villages and care package clients.

Recipes are developed and meals produced at a purpose-built kitchen in Altona, Melbourne, by a team of dedicated chefs and cooks. Their focus is the provision of nutritious, culturally sensitive and affordable meals that taste delicious and that meal...
Preparing and delivering recipients will enjoy and truly want to eat. Quality is uppermost and all meals comply or exceed government dietary requirements.

Community Chef is HACCP accredited. Annual reviews are conducted with technical experts to revalidate and verify that food safety and quality remain effective. There is a commitment to continuous improvement and lean manufacturing practices.

The full range of prepared meals currently comprises 95 soups, 350 mains, 39 side vegetable options, 78 main salads, 3 side salads, 91 desserts and 41 sandwich varieties. The product offering is seasonally rotated, four times per year, and has a four-week rotated cycle in each season. There is a 30-day shelf life for most items, excluding sandwiches, salads and some cold desserts.

Customers are spoilt for choice with their range including food to suit preferences for Anglo-Australia meals, roasts, international cuisine, vegetarian and Asian palates, salads and sandwiches.

Special and complex dietary needs can be fully catered for, including texture-modified meals and diabetic, low-fat, low-salt, high-fibre and low-protein meals. Halal, Kosher and gluten-free meals are offered through third-party suppliers.

Community Chef facility incorporates cutting-edge technology that ensures the highest standards of food safety, maximum efficiency and a superior work environment.

Councils place their orders via an automated electronic data interchange (EDI) that allows different systems to automatically take in and authenticate orders without any manual intervention once a week, a fortnight in advance of when the meals are required. Production typically follows a three-day cycle with ingredients arriving on day one before being processed on day two, then packaged and dispatched on day three. It's a process that uses the full material requirements planning (MRP) functionality of SYSPRO, Community Chefs’ enterprise resource planning (ERP) software solution. Food production requires a flow process and all the work centres need to be in sync for it to work. Because the menu changes every day, it’s a real test for everyone out on the production floor to be able to keep that constancy of quality coming first.

The biggest continuous challenge has been trying to balance production based on volume fluctuations. The establishment has had to cope with the continuous contraction and expansion of the business and has successfully achieved this with automation and a culture of innovation and flexibility.

The Community Chef kitchen uses the latest technology and techniques. It is one-third smaller than facilities with similar capacity, and has a lower level of energy use through limited refrigeration, less chemical waste by using ‘e-water’ and lower carbon emissions.

Chief executive Joe Ciccarone said where possible the company sourced local food.

“One of our best partnerships is with Karkana in Horsham, which is run by women in Uniting Care and they employ intellectually disabled people and they provide us with a portion of our carrots and onions,” Ciccarone said.

“We donate a lot of our spare food to Foodbank Victoria.”

SYSPRO Software Pty Ltd
www.syspro.com.au
Vented refuse container

Rubbermaid Commercial Products has launched vented BRUTE refuse containers, featuring four venting channels that create airflow throughout the container. This air circulation eliminates the vacuum effect that occurs when lifting out liners in traditional containers. By reducing the pull force required to lift out liners by up to 50%, the vented containers improve productivity and also reduce the risk of injury.

Homestyle poached egg

Sunny Queen Meal Solutions has released the Home Style Poached Egg for use in commercial kitchens. The eggs have a rustic appearance, with a creamy yolk, and have been fully cooked and snap frozen, ready to be reheated and served. Made with 100% Sunny Queen eggs, the product is 100% egg, with no additives or preservatives, gluten free and HACCP approved.

Sugar Australia has launched Sugars of the World, a collection of traditionally farmed sugars, each with its own unique characteristics. The range explores the diversity of sweetness from around the world, including: Colombian Panela, Sri Lankan Rapadura, Australian Muscovado, Mexican Agave, Indonesian Coconut Blossom, French Caster and Australian Unrefined. For more information, visit www.sugaroftheworld.com.au.

National Weighing & Instruments are pleased to introduce the new Take-away Scale. This scale is designed for food manufacturers that apply ingredients to mass produced take-away food and would like to regulate the amount of ingredients that are applied to each serve. Yellow is light, Green is Ok and Red is Overfill. Once the right amount is taken from the bulk container the display automatically resets itself ready for the next extraction.

The Take-away Scale provides consistency, saves $ and increases productivity in your process.

www.nationalweighing.com.au

Call National Weighing Today to discuss your application on 1300 669 162

www.sugaraustralia.com.au
Single-origin flour from known and traceable sources

Laucke Flour Mills is releasing Single Origin Kangaroo Flours — ‘Classic’ and ‘Rising’ — both milled from grain traceable to its Kangaroo Island origins.

Provenance and origin have long been heralded as a unique determinant of taste and quality by wine, cheese and coffee makers, but now Australia’s oldest family-owned flour miller is applying this same principle to its flour products.

The company tracks the provenance of the grains used in its Kangaroo flour from the actual paddock — where that vintage of their grain was grown — all the way through to careful segregation and milling, where the unique characteristics of the wheat are retained within the flour.

The unique provenance of these grains provides to consumers, bakers and chefs alike a high-quality artisan product that they can trust, with a distinctive flavour that reflects the natural bounty of its source.

For many years, Laucke Flour Mills Managing Director Mark Laucke has been crafting products derived from grains of known and traceable sources in the same way the wine industry produces wine from selected varieties and regions. Grains taste and perform differently, as do grapes, according to the variety, origin, weather and even the soil in which they were grown.

The pristine and natural environment of Kangaroo Island is separated from the Australian mainland by 22 km and therefore offers a provenance unique to the world. The region’s soil and natural environment produces a range of unique flavoured local foods and beverages — such as wines, cheese, olives and honey — and grains are no exception.

Kangaroo Island farmers have evolved their practices over many years to suit this protected environment. The island’s ocean boundary keeps the harvest safe from frosts, pests and disease, and the maritime climate and unpolluted soils nurture the growing grain as nature intended.

Laucke Flour Mills
www.laucke.com.au

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www.multivac.com.au
Food service packaging in health care and hospitality is undergoing the biggest transformation in a generation, driven by consumer demand for food packaging that is safe and easy to open.

A study commissioned by NSW Health has shown half of all consumers in the hospital system have experienced difficulty opening food packaging.

And the problem with packaging is not confined to hospitals. According to a global consumer study by MeadWestVaco in 2014, packaging that made the product easy to dispense or open was rated as important by three in four people. The same study found only 11% of consumers are completely satisfied with packaging.

As an Accredited Practising Dietitian, I know that hard-to-open packaging is a barrier in both the hospital and the home. If you can’t open the package, you can’t eat the contents. This highlights a huge opportunity for suppliers to gain a competitive advantage by improving their packaging in both food service and in retail.

NSW Health picky on packaging
NSW Health launched the Food Packaging Improvement Project in 2011. Since that time, two-thirds of all portion control food packaging products used in NSW public hospitals have been redesigned or replaced with easier-to-open items.

The project, managed by HealthShare NSW, is focused on packaging accessibility.

With 22 million meals served to patients each year, HealthShare drove the change by introducing packaging accessibility testing as part of the tender process for suppliers of packaged food.

To assess this aspect of a product, HealthShare partnered with Arthritis Australia, Nestlé and GTRI to develop a Packaging Accessibility Rating, which tested and scored products on a standardised scale.

This allowed NSW Health to select food packaging that is easier to open. The Packaging Accessibility Rating provides an incentive to suppliers to redesign their packaging and recognises and rewards manufacturers who make improvements.

The rating system has now been adopted by other state governments and healthcare providers. Many of these food portion control items are also sold to other areas of the food service industry, including hotels and airlines.

Industry innovators rewarded
Some of the biggest winners from this change are Australian suppliers who have innovated to make their packaging easier to open.

Medium-sized manufacturer EatWell Foods is one of several Australian companies to benefit from their ability to quickly respond to market needs.

Eatwell makes a range of biscuits and cereals and has gone from importing food to investing $5 million in a new local factory. "We can guarantee quality assurance through the use of Australian ingredients and local manufacturing,” said Matthew McAlpin, Eatwell Foods managing director.

Eatwell’s biscuit and cereal lines both achieved the maximum Packaging Accessibility Rating of +8, along with ‘Easy to Open’ certification from Arthritis Australia.

“Easy-open packaging gives our food products a competitive advantage and has opened new markets for us; we were never in cereals. Manufacturing locally gives us the flexibility to make packaging equipment modifications to quickly customise packaging to consumer needs,” McAlpin said.

“We are now winning contracts ahead of multinationals and low-cost imports, and are able to demonstrate product advantage over price. These things are a big advantage for a medium-sized operation such as ours.”

Healthshare NSW has seen overwhelmingly positive feedback from patients and the program is driving local manufacturing investment and jobs growth, and rewarding Australian farmers.

The Food Packaging Improvement Project was the Winner of the NSW Health Minister’s Innovation Award for 2014, because it was a win for Australian manufacturers, consumers and farmers.
Ready meal lines

The Robot Food TECH of Germany RCR linear machine is a highly flexible ready meal line that combines maximum flexibility, high efficiency and quick payback thanks to the latest servo-controlled technology and the efficiency of LIEDER technology.

The RCR modular linear line also offers high output. All axes of the RCR are servo-controlled and allow for quick product and format changes by push-button. Therefore, down times are reduced, production times are improved and, thanks to maximum automation, labour costs are reduced.

In combination with the AWF Particulate Filler and the RCF Robot Filler, the RCR linear line can handle the whole range of pumpable and non-pumpable (particulate) products as well as all types of tray packaging material.

The RCR can be equipped with tray denesters, a gas flushing system, a heat sealing station (pre-cut or roll stock) and/or snap-cap station, CIP, etc and can be combined with a decoration system for pumpable material such as mashed potato.

The AWF Particulate Filler and the RCF Robot Filler are also available in stand-alone versions.

The company offers solutions for filling and packaging ready meals, lasagne, pasta salads, fresh salads, green leaf salads, dips, etc.

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www.efca.com.au

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Tray sealers with skin packaging technology

G.Mondini in conjunction with Sealed Air has launched the Darfresh on Tray technology for its TRAVE line of tray sealers. The skin packaging technology allows a single tray sealing machine to produce a variety of packaging formats with minimal changeover time.

Advantages include: 100% utilisation of production line; small footprint; zero scrap rewind; easy addition and removal of heating and cutting systems.

The interchangeable, high-speed Mondini Trave technology includes: Vacuum skin, Darfresh on Tray, Vacuum Skin DD, Hybric Flat 3D, Protruding Vacuum Skin, Super Protruding Vacuum Skin, Flex Flex Protruding, Flex Flex Super Protruding, Modified Atmosphere Packaging, Cryovac Mirabella, Map Form Shrink, Stretch Seal.

G.Mondini is distributed in Australia by Select Equip.
Select Equip
www.selectequip.com.au

Canola spreads

Peerless FoodService has a range of spreads to suit all catering needs. The Vitalite range of spreads has been specially formulated for easy spreading and contains no artificial colours and flavours. Made from monounsaturated canola oil, they all contain less than 1% salt and are available in a variety of pack sizes: a 10 kg bulk catering carton, 500 g tubs and a 10 g portion control pack suitable for accompanying bread or biscuits.

To order, contact your local distributor. For more information, click here.
Peerless Holdings
www.peerlessfoods.com.au
Manufacturers in the growing ready meals sector are facing increasing challenges regarding the labelling and coding of these convenience food products. Ready meals are the convenient lifestyle choice for time-poor consumers desiring food choices which provide a combination of flavour, quality, nutrition and fuss-free preparation. While producers work to increase production efficiencies, improve margins and protect the integrity of their brand, a number of different stakeholders are increasing pressure on them for the labelling and coding of ready meals.

Both government and consumers are demanding clearer, more detailed food ingredients information. This includes specific allergen labelling, the introduction of the voluntary Front of Package Food Star Ratings and the newly proposed, more specific country of origin labelling.

Retailers, too, are demanding clearer codes, desiring precise characters that can be easily read by consumers when products are displayed on shelves or in retail cabinets; and are pushing for true-type fonts, similar to the coding and marking on shelf-ready packs, as well as 2D Data Matrix barcodes.

Added to the mix is the desire of brand owners to use the latest coding technology to protect their brand’s integrity. Beyond
the obvious requirement for clear, precise compliance codes that complement the product’s brand and packaging design, some brand owners are exploring innovative uses for variable information and QR codes to build consumer engagement and enhance the perceived quality of their ready meal.

The technologies

Continuous ink jet
Continuous ink jet (CIJ) continues to be a leading solution for coding use-by dates and batch codes onto ready meal packaging due to its high speeds, easy-to-read codes and ability to print onto a wide range of porous and non-porous substrates, as well as uneven surfaces.

CIJ offers a wide range of inks approved for the food manufacturing environments, as well as retortable inks that change colour during retort and offer additional confirmation the process took place correctly.

Thermal ink jet
Thermal ink jet (TIJ) is one of the most efficient and clean coding solutions for controlled food packaging production environments. This technology uses hundreds of nozzles inside the printhead to achieve true-type fonts, graphics, logos, QR and 2D data matrix codes at print resolutions of up to 600 dpi.

Due to recent innovations in TIJ ink formulations, thermal ink jet now suits an even wider range of applications and substrates, like those typically found in the ready meal and convenience foods sector; for example, flexible packaging and cardboard sleeves.

Thermal transfer overprint
Thermal transfer overprinting (TTO) technology is ideal for flexible packaging and prints high-quality codes onto materials such as polypropylene, coated aluminium, paper and labels. TTO comes into its own when detailed information is required; for example, ingredients lists and nutrition panels. In addition to this, TTO can print the message in any orientation and so is not reliant on the direction of travel of the production line.

Self-adhesive labels
Self-adhesive labels can also suit some ready meal coding applications, particularly when additional variable information is required; for example, variable weight.

Laser
Scribing lasers print or ‘etch’ indelible and permanent serial numbers, batch codes, barcodes and 2D matrix codes onto substrates such as plastic, glass, paper and cartons. Laser technology provides the fastest code times compared to other coding methods, and is clean, environmentally friendly and can be highly cost effective, due to its low maintenance and no requirement for fluid consumables. Its suitability is dependent on the substrate to be coded and the resulting code is generally white text, which is etched onto a pre-printed black background.

While there is a wide range of technology options available, each offers slightly different benefits in terms of application and output. When looking for the right solution, manufacturers will benefit from choosing a technology partner with a range of technologies who can offer an unbiased approach, focus on the best coding outcome, and help to increase production efficiencies and improve margins.

Insignia Pty Ltd
www.insignia.com.au

### Packaging for convenience foods and ready meals

Cryovac Simple Steps, from Sealed Air, offers a packaging solution for convenience foods and ready meals that enables fresh meals to be plated, shipped, sold and reheated all in the same package.

The self-venting mechanism makes the packaging suitable for microwave reheating applications, producing a meal that requires no stirring, eliminates the risk of steam burns and is cool to touch. The vacuum skin packaging extends shelf life and gives the food greater merchandising appeal in the retail case. Suitable for foodservice and retail applications, the packaging offers accurate portioning and consistent product quality across multiple-unit locations, while boosting consumer appeal by preserving food quality and providing convenience through easy-open packaging and stay-cool handles.

Cryovac Australia Pty Ltd
www.sealedair.com/cryovac_home.htm
Quick-to-table pre-baked breads

Tip Top Foodservice has relaunched its Speedibake pre-baked bread range to increase serving flexibility. The new Speedibake range can be thawed and served immediately or flash-baked for only minutes to achieve a just-baked aroma, catering for demand in the foodservice industry for reduced baking times and convenient quick-to-table bread.

The Speedibake range decreases preparation time over traditional par-baked breads by more than 50% on average, which will help deliver food quicker to consumers. The Speedibake range was developed with convenience for foodservice business in mind as each product can be thawed and served as needed or flash-baked for times when a meal must be quick-to-table.

Tip Top Foodservice’s relaunched range of Speedibake quick-to-table pre-baked breads is economical as it can be stored safely in the freezer for up to 12 months and used in line with actual consumer demand.

The range consists of two styles of bread — Rustic and Classic — in line with emerging trends in the industry for artisan-style breads as well as convenient everyday solutions. Included in the range are dinner rolls available in white, brown, multigrain, slider and Kaiser options, as well as rustic sourdough, rye, Turkish and ciabatta. Lunch roll offerings include baguettes and sandwich subs in white, brown and multigrain as well as panini, sourdough, Turkish and ciabatta rolls or gourmet hamburger buns. Finally, a range of batards, French sticks, and Vienna and cob loaves is available for sharing along with rustic stonebaked sourdoughs, Turkish pide, ciabatta and Pane di Casa loaves.

Available nationally via foodservice distributors, the range of convenient Speedibake products is HACCP certified and offers a complete solution to foodservice bakery needs.

Tip Top Foodservice
www.tiptop-foodservice.com.au
Snack-sized healthy slices

Springhill Farm has added Healthy Slices to its Bite-Sized Treats range.

The slices have been developed as grab-and-go snacks for health-minded customers. They use natural flavours, are lower in fat, salt and kilojoules than many competing products, and are free from wheat, dairy and refined sugars.

The range features three flavours: Raw Cacao & Tahini (28 g), Apricot & Almond (25 g) and Sesame & Honey (23 g).

The company says the slices meet government nutrition guidelines, allowing them to be sold in schools and hospitals. They are available in display boxes of 27 units, bulk boxes of 200 units and vacuum-packed trays of 36 pieces. The slices have a nine-month shelf life when individually wrapped and a six-month shelf life on vacuum-packed trays (three weeks from opening).

Springhill Farm
www.springhillfarm.com.au

Automatic caviar and pearl former

The Spherificator is claimed to be the world’s first automatic caviar and pearl former. It is a handheld device that will produce up to 10 kg of pearls and caviar daily.

Spherification, simply put, is the culinary process of shaping a liquid into spheres that visually and texturally resemble caviar or pearls. Users can produce pearls and caviar with a liquid centre by using a reverse technique called reverse spherification.

Imperial Spherificator
spherificator.com

Jacketed cooking kettle with integrated mixing arm

The Metos Manufacturing range of jacketed cooking kettles has been extended with the Proveno 2G series of combi kettles.

The Proveno range offers a cooking and cook chill solution for commercial kitchens and food production facilities. It is suitable for the production of soups, sauces, casseroles, curries, mashed potato, chutneys and jams plus much more, while removing the physical labour and potential associated injuries that are commonly seen when staff are required to cook such foods in large volumes.

With models ranging in size from 40 to 400 L there is a model to suit most applications.

The Proveno combi kettles feature TempGuard Intelligent temperature control as standard in all models, ensuring food products are protected from sticking, burning or scorching while the integrated mixing arm makes manual stirring a thing of the past.

The closed cell polyurethane foam insulation improves energy efficiency, reducing operating costs during every cooking cycle.

Added features include programmability, in-kettle chilling, HACCP data recording and integrated safety functions for the protection of product, staff and equipment.

Moffat Pty Limited
www.moffat.com.au
The quality of the food has a lot to do with keeping passengers happy, especially on long-haul flights. But the physical environment — noise levels and altitude — actually alters what foods and beverages consumers enjoy.

In noisy situations — like the 85 dB aboard a jetliner — it seems that our sense of taste is compromised and umami-rich foods are preferred over sweet options.

To their surprise, Cornell University food scientists found that in noisy places sweetness is suppressed and umami is preferred. (Umami is a Japanese scientific term that describes the sweet/savoury taste of amino acids such as glutamate in foods like tomato juice.)

“Our study confirmed that in an environment of loud noise, our sense of taste is compromised. Interestingly, this was specific to sweet and umami tastes, with sweet taste inhibited and umami taste significantly enhanced,” said Robin Dando, assistant professor of food science. “The multisensory properties of the environment where we consume our food can alter our perception of the foods we eat.”

The study may guide reconfiguration of airline food menus to make airline food taste better. Auditory conditions in air travel actually may enhance umami, the researchers found. In contrast, exposure to the loud noise condition dulled sweet taste ratings.

Airlines acknowledge the phenomenon. German airline Lufthansa had noticed that passengers were consuming as much tomato juice as beer. The airline commissioned a private study released last fall that showed cabin pressure enhanced tomato juice taste.

Taste perception depends not only on the integration of several sensory inputs associated with the food or drink itself, but also on the sensory attributes of the environment in which the food is consumed, the scientists said.

"The multisensory nature of what we consider 'flavour' is undoubtedly underpinned by complex central and peripheral interactions," said Dando. "Our results characterise a novel sensory interaction, with intriguing implications for the effect of the environment in which we consume food."

Non-destructive temperature measurement of food products

Measuring the average temperature of a chilled, frozen or warmed food product can present a real challenge for food manufacturers and retailers. Typically, an inspection would involve a device that measures the product's surface temperature or the probing of a packaged product, which is invasive and effectively destroys the product.

Celsius Instruments provides a fast, non-destructive method of measuring frozen, chilled and heated products in an easy, repeatable manner. The company offers two instruments: the entry-level Midi; and the larger Meso, which is designed for large, carton-sized products.

With the Celsius range of measurement devices, users can be assured of accurate and consistent measurements using an easy-to-use, easy-to-read measurement device. An incorporated PC enables storage of all results, which can be exported to an IT system for historical tracking. Options include a light beacon and a barcode scanner to make data recording even easier.

The system produces fast, consistent and accurate readings because the temperature measurement is not reliant on the positioning of a temperature probe. It also offers savings in terms of product wastage, packaging, replacement probes and rejected product. It can measure chilled, frozen and warm products ranging in temperature from -30°C to +30°C.

Inspection Systems Pty Ltd
www.inspectionsystems.com.au
Dress your strawberries in edible coats to keep them looking good for longer

Edible coatings on strawberries can reduce the risk of bruising and simultaneously increase their shelf life, according to a recent study. A team of researchers from Mexico discovered that edible active coatings (EACs) incorporated with sodium benzoate and potassium sorbate reduced fruit softening, reduced microbial growth, preserved the colour, flavour and texture of strawberries and increased the shelf life of strawberries from six to 15 days.

The EACs studied were based on pectin, pullulan and chitosan. Pectin is present in the cell walls of many fruits and vegetables; chitosan is a major component of crustacean shells and exhibits antifungal properties; and pullulan provides extracellular support.

The abstract of the article about how applying edible coatings to strawberries, one of the most economically important fruits worldwide, may improve their quality and shelf life can be found in the August issue of the Journal of Food Science, published by the Institute of Food Technologists.

Pre-made pouch filling/sealing machine

The Toyo Jidoki TT-8CR pre-made pouch fill/sealer features flexible specifications for many pouch formats and can comply with a variety of liquid and solid product applications.

Available in Australia from Walls Machinery, the TT-8CR can run up to 45 pouches/min, depending on the product, and it is possible to change the pouch size filling amount without any tools very quickly and simply.

The TT-8CR has a newly designed main drive unit, state-of-the-art rotary design and reliable pouch pick-up supply unit.

The surface material and structure are made washable and the electric cabinet is mounted over the machine for safety and maintenance reasons, which makes the machine much easier to clean. It is also equipped with a graphic operation panel, which offers simple operation and maintenance of the machine.

The TT-8CR is suitable for a range of applications such as retorted pouch foods, precooked foods, frozen foods, sauces, juices, processed seafood and more.

Walls Machinery Pty Ltd
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Leafy greens and uncooked vegetables bring with them a high risk of food poisoning. They are implicated in about 20% of reported cases of illness caused by foodborne pathogens in the US. Being eaten raw, the produce preparation does not include a kill step, such as exposure to the high temperatures experienced during cooking, that reduces the risk of live pathogen contamination.

Leafy greens do not naturally contain bacteria that can make consumers sick but the leaves can become contaminated because they are grown close to the ground. Contaminated leafy greens have been linked to cases of food poisoning caused by Salmonella and E. coli, and most commonly, norovirus.

Leafy greens can become contaminated in the field by:
- soil,
- contaminated water,
- animals,
- improperly composted manure.

They can also be contaminated by bacteria:
- during and after harvest from handling, storing, and transporting;
- in the refrigerator or from counters and cutting boards (through cross-contamination with harmful bacteria from raw meat, poultry or seafood).

Despite the frequency of vegetable-related illnesses, they are not the most harmful — this dubious honour belongs to poultry. In the US, the largest proportion of deaths from foodborne illness, one in five, was due to poultry.

So, how can we ensure that the salads and uncooked vegetables, which add freshness and appeal to many ready meals and catering menus, do not end up making our customers sick?

Washing hands thoroughly with warm water and soap for at least 20 seconds, before and after handling leafy greens, and following proper cleaning techniques can help avoid cross-contamination and prevent the spread of food poisoning.

The produce should be washed under fresh, cool running water but should not be left to soak in tubs of water. The bacterial load needed to cause disease is often quite high but consumers can become ill after eating just 10 E. coli. This presents a particular problem for leafy greens grown in soils fertilised with manure which is
high in E. coli as splashes during watering can transfer the bacteria onto the leaves.

Reducing the bacterial load can be problematic but researchers at the University of Arizona have discovered natural methods to sanitise these vegetables using ingredients commonly found in the kitchen, such as oregano, cinnamon and vinegar.

Plant extracts, essential oils and organic sanitisers have all proved effective in killing bacteria on leafy greens and extending their shelf life. When emulsified in the water used to wash these leaves, the approach compares to (and sometimes even works better than) bleach or hydrogen peroxide.

“Plant antimicrobials can be used by consumers at home,” said Sadhana Ravishankar, associate professor at the University of Arizona’s School of Animal and Comparative Biomedical Sciences. “Plant extracts and essential oils can be added in the wash water by themselves or combined with vinegar in the wash water for treatment.”

Benefits of using plant antimicrobials and organic sanitisers are that they are natural, environmentally friendly and less energy intensive since they are effective at both room and cold temperatures. They also continue to kill bacteria during storage; their effectiveness is not reduced in the presence of organic matter; and they have added health benefits linked to a reduction in the occurrence of cancer, diabetes and high cholesterol. The wash water containing plant compounds and organic sanitisers can also be recycled and re-used without a loss in effectiveness.

“We have also researched a new way of applying plant antimicrobials to improve salad safety,” said Ravishankar. “We have incorporated plant essential oils into edible films that are added into salad bags and the vapours from the oils kill the bacteria in the salad bags during storage. Edible films are also plant-based sources such as apples, carrots, hibiscus or spinach pulp.”

The outcomes of this project will benefit consumers by reducing and preventing contamination of the leafy greens by foodborne pathogens at the production and harvesting levels, providing a safer product in stores and on their tables.

Moving forward, Ravishankar and her team are testing combinations of plant antimicrobials and the effectiveness of them when the wash water is recycled. USDA’s National Institute of Food and Agriculture (NIFA) is funding this new research, a four-year, $2,907,354 Organic Agriculture Research and Extension Initiative (OREI) grant.
Sepak Industries has successfully completed the design, supply and installation of a 120 L per day Red Wine Jus system for a major commercial catering food supplier in Sydney.

The system was designed to process approximately 1500 L of water, bones and vegetables in each batch. The water may be manually removed by an operator or at the end of transfer of the stock to the reduction pan.

The reduction pan has been designed to evaporate approximately 1000 L of combined stock and wine in 12 hours to produce 120 to 180 L of jus. The Sepak Industries designed and manufactured hygienic scraped surface agitator assists the operator to achieve their desired jus consistency.

The installed system includes two 1000 L stock pots with bone baskets that can be inserted from the top. The 1000 L reduction pan features 3 mm 316 stainless steel walls with a 1.5 mm dimple jacket suitable for steam application, fully welded stainless steel 304/No.4 cladding and insulating. This tank is equipped with Sepak Industries’ scrape surface agitator.

316 stainless steel pipework is used for product transfer from stock pots to reduction pan. A hygienic lobe pump can be used for thick products.

Other equipment includes a heating control system, hygienic manual diversion valve, temperature controllers, monorail crane for lifting the bone basket and a wall-mounted ventilation system for the jus production area.

The system is manufactured to food standards and, as such, it can be CIP (clean-in-place).

Sepak Industries Pty Ltd
www.sepak.com.au

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**Cook/chill and rethermalise**

Using blast chilling as part of the cook/chill process optimises the management of a kitchen’s resources and streamlines operations. Chefs can cook large volumes of meals in advance or when convenient reducing kitchen downtime. No matter what time meals are cooked, when they are blast chilled they can then be stored in a coolroom ready for service at a later time.

Cook/chill also optimises labour resources in the kitchen. The Tecnomac Blast Chiller – Freezer will allow users to present quality food. The chiller-freezer lowers the temperature of food down to +3°C in less than 90 min, which reduces the risk of bacteria proliferation. Blast chilling immediately stops the cooking process of the food so that it retains its quality, texture, colour and nutrients. It preserves the cooked food so that it can be stored in a coolroom.

Available in a range of sizes from a five-tray to walk-in models, there’s a Tecnomac blast chiller that will suit any sized operation.

Before service, the chilled food needs to be brought back to temperature, usually above 65°C, using a process known as rethermalisation. Rational units have a finishing program that is designed specifically for rethermalising the food back to a serving temperature using a mixture of steam and dry heat.

By combining blast chilling from Tecnomac with finishing with Rational, 10 or 1000 diners can enjoy hot dishes exactly as the chef had prepared them earlier.

Comcater
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Delivering freshly cooked food containing all the goodness of a homestyle meal

With 10 staff and a kitchen that operates 10 hours each day, four days a week, WindMeals currently produces approximately 75,000 meals a year.

WindMeals is part of the not-for-profit DutchCare community organisation and is a leader in aged care with numerous facilities and services throughout Melbourne for retirement living, home care and residential care.

Established in 2010, WindMeals operates its own kitchen in Seaford, which is in addition to the kitchens in DutchCare’s aged-care facilities.

Customers, who can now order online, have more than 40 nutritionally balanced meals to choose from. While customers were originally mostly Dutch, now the customer base is much more multicultural with the menu reflecting this change.

Drivers in refrigerated vans deliver the meals Monday to Friday and will assist customers if they need their meals packed into their freezer.

Challenges
Sue Pyper, WindMeals coordinator, was appointed to establish the business four years ago. A qualified chef, and with a Meals on Wheels background, Sue has taken the start-up to one that is servicing hundreds of customers every week from Moe to Geelong and all points in between.

It wasn’t long after Sue started that she began looking for a system that could automate the packaging of meals and provide efficiencies in the time taken to pack and seal meal trays.

“We were using foil trays with cardboard covers, but I felt these were impersonal as you couldn’t see the food and were not that attractive. Also, there was a perception they couldn’t be microwaved and when customers heated their meals in the oven, this had the potential to pose scalding issues,” Sue said.

“In looking for a change, we tried plastic trays with clip-on lids but these had many drawbacks. We wanted an environmentally friendly solution and one that would have a high return on investment.”

Solution
As an existing supplier, Confoil introduced Sue and WindMeals Food Service Manager Lindon Perry to its range of Oliver paperboard trays and automated sealing machinery. The benchtop sealer can comfortably package 300 meals per day and drastically reduce meal preparation hours.

The Oliver 1308 system comes with film lidding that has a generous overhang on the tray. Even though it is tamper evident, it is very easy to open. The complete meal package can go in the microwave or oven and, because the tray is made of a paperboard construction, which is a natural insulator, it is comfortable to handle straight from the oven.

The trays come in single- or multicavity sizes and can be recycled. They are quality and HACCP accredited.

Customer feedback
Before deciding on the Confoil Pack and Seal system, WindMeals sent out samples...
to customers and surveyed them to gauge their response.

“Feedback was very positive,” Sue said. “Customers found it very user friendly. They could see the food and found it easy to peel back the film. And because the film is perforated, the steam that escapes is not as much as alternative systems.

“The greatest benefit to customers though is that they can take the meal direct from the freezer and pop it in the microwave or oven and remove it without the danger of burning themselves on the tray. The trays are never brittle and can withstand temperatures of –40 to 210°C.

“The tray is also attractive, so there are lots of positives. I don’t think there has ever been a negative comment on the actual container. Plus, it is recyclable.

Wastage control
Operationally, WindMeals is benefiting from the Confoil system through better control of wastage.

“Because our process is portion controlled and we have set menus, you can monitor your wastage better. It’s a direct benefit because we know how much labour is needed for how long to produce the stock that’s on the menu that week or month.

“We use the dual-compartment tray and dessert tray and seal the soup cups as well with the film lidding.

“If we do happen to have excess product, we can label and distribute it in containers to send to our sites.”

Results
The benefits to WindMeals in using the Confoil system include:

• Faster meal processing, which saves time and money.
• Meals can be stacked on top of each other, which saves space in the freezer and van.
• The equipment is simple to use with just an on/off switch so technical staff or specialised training isn’t required.
• Using the Confoil system allows WindMeals to run the kitchen four days a week, which reduces overheads.
• Customers are delighted with the attractive design and ease of use. The convenience of freezer to oven/microwave means they can eat straight from the tray or decant onto a plate.
• Ordering via the website has grown since it went online last year and, because of the automated sealing system, WindMeals has been able to handle the increased business.
• The reduction in hot steam escaping on peel-back due to the perforated, anti-fog film lidding makes it safer for customers.

Sue Pyper explained how Confoil’s Pack and Seal meal packaging system has provided a simple, cost-effective, attractive and safe solution for WindMeals: “The simplicity of the system really suits our operation. The attractive presentation of the trays and film lidding appeals to us and our customers. Plus, the safety aspect where you can hold the container straight from the oven without scolding yourself is a really big key factor in WindMeals continuing to use this system.”

Confoil Pty Ltd
www.confoil.com.au

Takeaway scale
The National Weighing and Instruments takeaway scale is designed for food manufactures that apply ingredients to mass-produced takeaway foods such as sandwiches, pizzas and wraps and would like to regulate the amount of ingredient applied to each serve. Operators currently measure ingredient quantity by hand, which is highly variable.

The takeaway scale operation is quite simple: users place the bulk container with the ingredient on the scale and select the quantity and tolerance of ingredient to be dispensed. As the production line moves along, the operator extracts the ingredient from the bulk container.

Colour coding simplifies the task for the operator — yellow is light, green is okay and red indicates overfill. Once the right ingredient amount is taken from the bulk container, the display automatically resets itself for the next extraction.

The scale has a database to set up different products, batches and users, and can provide totals of product used by users and batches. This enables the scale to be used in more than one location in a production plant. It also has a checkweighing function to ensure that the final packed goods comply with regulations.

The scale has NMI trade approval.

National Weighing & Instrument
www.nationalweighing.com.au
LiraH, Australia’s leading premium vinegar producer, started with some oak barrels on a farm at Ballandean only 10 years ago.

In 2003, Ian Henderson and his wife Robyn launched Australia’s first dedicated vinegar-making facility in Queensland’s premier wine-growing region, the Granite Belt. Robyn’s family, third-generation winemakers, created vinegar barrels to make their own wine vinegar in 1969. Ian, a qualified winemaker, was granted custody of these vinegar barrels to start the LiraH vinegar-making enterprise.

A state-of-the-art, purpose-built and environmentally sustainable vinegar factory was built on Ian and Robyn’s farm at Ballandean. In the first year of operation, commercial retail products were distributed in Queensland and also exported to the USA.

Expansion into the foodservice market soon followed in 2005 and, in 2006, Ian was awarded a prestigious Sir Winston Churchill Fellowship to study vinegar making in Europe.

Within 10 years, LiraH had become firmly established as Australia’s leading premium vinegar producer under the watchful and expert eye of Ian, the Principal Vinegar Maker.

Recognised as Australia’s most experienced and technically proficient vinegar maker, Ian and his team of vinegar makers skilfully blend traditional and new techniques to create fresh and innovative vinegars. While produced in a modern facility, the original old oak barrels are used to age the red wine vinegars.

As the LiraH business grew, so too did new market opportunities. In addition to
expanding its range and penetration into the retail and foodservice markets, Ian saw a distinct market need for a premium dedicated vinegar supplier for the total food industry, including food manufacturers.

“We started making quality vinegar in Australia because not only are we passionate about all things vinegar, but because we wanted to educate the food industry — from manufacturers to professional and home cooks — about the wonderful versatility of vinegar. In the kitchen, good vinegar can create dynamic flavours; and industrially, it can enhance flavour delivery and product stability. We love to work with our customers to deliver the very best outcomes at all times — consistency is critical,” said Ian.

In 2013, the business was restructured to more accurately reflect its breadth of product and services and relaunched as Australian Vinegar.

Today Australian Vinegar is the leading vinegar solutions provider for the food industry, servicing the contract, industrial and private-label markets with bulk and customised vinegars as well as expert R&D and vinegar services.

LiraH is now Australian Vinegar’s premium retail and foodservice brand. It is sold nationally via gourmet stores, favoured by professional chefs and a Delicious Produce Awards Finalist for the last four consecutive years, winning in 2013 with its acclaimed Chardonnay Vinegar.

With its current facility now at capacity, a new $1.5 million facility featuring state-of-the-art vinegar-making technology is under construction in Stanthorpe (20 km from Ballandean) and is expected to be operational well before the end of the year.
Emulsify, grind, blend, chop, mix, knead and heat

The Robot Coupe Robot Cook is a cooking, cutter blender with a 3.7 L stainless steel bowl. The easy-to-use machine has a variable speed function of 100 to 3500 rpm with its turbo/pulse rotary speed reaching 4500 rpm.

The high speed and cutting functions are complemented with the ability to heat foods to 140°C and to keep food hot thanks to the intermittent function.

A mix of delicate products can be prepared without cutting due to the inverse rotation of the blade: the R-Mix function.

The unit’s programming function means preparation methods can be created with Robot Cook and then effortlessly reproduced.

The Robot Cook relies on a robust industrial induction motor that is virtually silent.

The machine can be used to emulsify, grind, blend, chop, mix and knead hot and cold, savoury and sweet foods.

Robot Coupe Australia
www.robotcoupe.com.au

Packaging line for shelf-ready retail stand-up pouches

Senzani has developed a complete shelf-ready retail packaging line for stand-up pouch products. The use of stand-up pouches provides companies with benefits such as easy display within supermarkets in shelf-ready carton packaging and provides a larger area for printing of brand and product information.

Senzani’s complete line automates the whole process of pouch packaging, from the exit of the pouch filler, automated handing off to the autoclave steriliser and retrieval, through to the final packaging. This includes a forming module in which the trays and display packs are formed, a pick-and-place module that places the pouches into the trays and a lid-applying module that is used to close and seal the display carton.

The line has a speed of up to 23 boxes of pouches/min for 200 g pouches, with a vertical 6- or 12-pouch packing configuration per box. The machinery is designed to handle pouches with and without caps.

Senzani is represented in Oceania by HBM Packaging Technologies.

HBM Packaging Technologies
www.hbm.com.au

Handheld inkjet printer

The jetStamp 790MP from Trend Marking Solutions is a small, hand-operated inkjet printer that uses a high-yield disposable ink cartridge filled with a solvent-based ink suitable for plastics, metals and many other non-absorbent materials like gloss board.

At around 500 g, including the rechargeable batteries, it is simple to operate. Codes are changed using the provided software or on the unit itself. The operator then places the unit in position and presses the ‘print’ button in the handle. The unit ‘sprays’ the code onto the product — up to 20 characters per line over 2 lines in a 3.2 mm font size — in under 1 s cycle time.

Because the unit uses inkjet technology, it is able to absorb the contour of an uneven surface — wrinkles on plastic bags, concave jar bases — or the outside curve of a round container.

Trend Marking Systems
www.trendmarking.com.au

Tray sealer and thermo former spares

Melbourne-based MKA (Machine Knives Australia) manufactures and reconditions all types of tray sealer and thermo former parts and spares. The company can manufacture all types of tools and has experience in manufacturing unique shapes, seal types and styles. These can be for easy opening or modifying profiles in the bottom of the trays for strength, identification etc. The company claims its jobs are generally delivered in more quickly and more economically than original spares.

Machine Knives Australia
www.mka.com.au
Here are temperature management, alarm monitoring and reporting systems available today that can ensure your food is safe for consumers.

With the technology and knowledge that we have today, why are there still so many foodborne illness cases?

Prior to our current knowledge base regarding bacteria, viruses, etc — and the development of technology for refrigeration, temperature monitoring and hazard analysis in storage and production — there were many illnesses and deaths due to food poisoning. But as we’ve developed solutions to these problems, how are they still happening?

There are around 59 food recalls per year — a number which is increasing. This may not sound like many, but it’s more than one each week.

More than half of these are for microbial contamination which is entirely preventable.

Far and away the most common of the microbial contamination culprits is Listeria monocytogenes (very bad for pregnant women, as it can cause spontaneous abortion). This is followed closely by Salmonella and E. coli.

Of course the main foods implicated are meats, including chicken — and, to a lesser degree, dairy products — but eggs, fruit and vegetables and nuts are also sources.

All of this leads to a whopping 5.4 million people becoming ill from foodborne illness in Australia each year. These are reported cases — not just where someone felt ill and didn’t go to the doctor. The actual figure would therefore be much higher than that. The worst outcome of foodborne illness is death, which occurs in around 120 Australians each year. In the UK, there are around 400 deaths and more again in the US.

Microorganism growth requires (for the most part) moisture, a food source, warmth and time. Take out one of these elements and the multiplication to dangerous levels is severely reduced, resulting in safer food. The growth requirement which is most easily controlled is warmth — we can control temperature — so this is the easiest way of ensuring safe food.

We are all well aware of the temperature controls required to kill and minimise microbial growth. All we have to do is implement these and monitor temperatures.

In production, you only need a simple digital probe thermometer to ensure that potentially hazardous foods are maintained at safe temperatures. Not only do you need to have one, but you must also use it and know the temperatures applicable to what is being done!

In storage, there are data loggers — now even automatic data logging systems which send an SMS to your phone if there is an alarm situation. You no longer have to stand by with a thermometer in hand.

The systems available today in temperature management, alarm monitoring and reporting do not have to take personnel much time to use, and, as technology improves (as with all equipment), they have become more and more affordable. But what price can you put on the food in storage in a chiller, should the refrigeration fail? Or on your business, should there be a recall of your food, or a class action from people who became ill eating the contaminated food, or the death of a consumer?

If you don’t know what to do, talk to experts in food safety — don’t rely on people unsure of the rules or of product which is not to food safety requirements. Monitor temperatures, then record and keep your monitoring as proof of your diligence to keep your product and your consumers safe.

HLP Controls Pty Ltd

www.hlpcontrols.com.au
ill insects be the protein source of the future? While the world population is growing, the amount of available farmland isn’t. This is ultimately going to present difficulties in meeting consumer demand for protein as the shortage of farmland will limit livestock. Aaron Dossey, PhD, founder of All Things Bugs LLC, believes that insects will provide a nutritional solution.

At the IFT15: Where Science Feeds Innovation symposium hosted by the Institute of Food Technologists (IFT) Dossey said: “We have 7 billion people now and that’s projected to be 9 billion in 2050. We’re already using a third of the land on Earth for raising livestock, and the demand for protein is growing even faster than the population, especially animal protein.”

All Things Bugs, which will produce about 11,500 kg of cricket powder this year, has received research grants for several projects related to using insects as food, including how it can alleviate childhood malnutrition.

Dossey cited several properties that make it a valuable food source, including:

- **Efficiency**: They use less land, water, feed, energy and other resources than livestock.
- **Environmentally friendly/clean**: Insects create fewer greenhouse gases and are not contaminated with pesticides. They also do not have any hormones in their bodies.
- **Prolific**: They reproduce quickly so they can replace depleted resources.
- **Biodiverse**: There are millions of insect species, so it is easy to find a match to a location’s need.
- **Nutritious**: They have protein and omega 3s, a class of essential fatty acids that help lower cholesterol.

While the research is promising, George C Ziobro, PhD, of the US Food and Drug Administration (FDA) Center for Food Safety and Applied Nutrition, cautioned that it would not be simple to add insects to the typical diet. He cited the FDA’s requirements that all food be clean, manufactured under sanitary conditions and properly labelled. In the case of insects used in food manufacturing, that means they must be raised specifically to be used as human food, not simply taken from the outdoors, because of the risk of disease or pesticides.

“We all eat insects or insect parts. In most cases, it is accidental,” Ziobro said. “The FDA restricts the sale of insect-infested or insect-damaged foods. The vast majority of people don’t want to see part of their breakfast walk off the plate.”

This does not mean that within our lifetimes we won’t be ordering ‘spaghetti cockrochia’. © bajita111122/Dollar Photo Club
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