

# food

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APRIL/MAY 2016

## EFFECTIVE PROCESSES FOR FOOD SAFETY



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FOOD REGULATORY CHANGES – P18

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THE INNOVATION BEHIND CHOBANI'S SUCCESS – P32



**ecowize**  
GROUP

*"Cleaning has a New Benchmark"*

# ON THE COVER

## Role of cleaning in *Salmonella* contaminated food processing facilities



*Salmonella* has featured in several recalls in Australia in the past 12 months. Although it's been frequently associated with retail food outlets, large recalls involving lettuce and eggs have been seen recently.

*Salmonella* is associated with animals, and is found in the gut of food production animals, processed for consumption. It is also a source of contamination in lettuce and other vegetables, when animal faeces have been used as a soil nutrient.

Most outbreaks in retail food shops are either cross contamination from raw to cooked food and contaminated food stored in the temperature danger zone. Mayonnaise from raw eggs is a common source of food poisoning.

Processing large volumes of food

utilises large vessels to deal with the high throughput, as volumes may yield in excess of 10,000 units per day or in the case of the egg industry, one processing outlet may process in excess of one million eggs daily.

Processors may include washing vessels, where water is used to remove soil and other contaminants. Bacteria may enter the vessel through contaminated produce, and with the ideal environment of moisture and nutrient may result in a reservoir, for bacterial proliferation.

The first step in the cleaning process is to document the process. This can be through a work instruction or standard operating procedures (SOPs). Parameters should be set for the cleaning outcome, and using

photographs to identify Key Inspection Points (KIPs) is a clear guide for cleaners. Cleaning chemicals should be specified, including the acceptable dilution of each chemical.

KIPs are often available, historically from records, after the daily pre-production inspection checks. These checks are carried out daily to ensure the food processor is fit for the purpose of producing food. These KIPs mostly include difficult-to-see inner surfaces, or poorly accessible surfaces. These may include inside of conveyor belts or inside drain valves. It is important to use a torch to illuminate these areas when inspecting the cleaning.

Microbiological testing will confirm the presence or absence of *Salmonella*, and all food production plants have a swabbing or testing regime.

If the visual cleaning appears acceptable and micro testing has still identified the presence of *Salmonella* or other pathogens, then biofilms may be the reason. Look for build-up of protein and scale as possible sources. Scrubbing these surfaces, with a suitable cleaning detergent, will usually remove these biofilms, but it is recommended to acid wash on a periodic basis to remove scale.

A good practice is to rotate sanitisers to improve the confidence of the cleaning process, as bacteria are adaptable to the processing environment. 4



"Cleaning has a New Benchmark"

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## IN THIS ISSUE

Welcome to the April/May 2016 issue of *food australia*.

With so many recent changes in food regulation, in this issue we take a close look at some of the biggest developments so far in 2016. Starting on page 18, Food Standards Australia New Zealand gives us an overview on the latest changes to the Food Standards Code, as well as what's in the pipeline for the rest of the year.

Then on page 20, Australian Food & Grocery Council provides an overview of the impact that some of the recent changes to food regulation will have on the food industry, while on page 22, CSIRO looks at the process of self-substantiation of health claims in light of the new Standard 1.2.7 of the Food Standards Code.

Keeping on top of industry trends and insights is essential in order to ensure that we, as food industry professionals, stay informed and up to date. On page 30, AIFST's general manager – industry services Sarah Hyland takes a look at five key drivers in nutrition that are predicted to underpin a broad range of categories, sectors and consumer types in 2016.

A brand that has successfully navigated trends in nutrition and managed to innovate its product offering to stand out in an otherwise crowded marketplace is Chobani. On page 32, Chobani's managing director gives us his insights on innovating in the dairy sector.

And finally, Final Word takes a look at the native Australian Angasi oyster. Often sought after by chefs for their full flavour and texture, the humble oyster is resistant to the Pacific Oyster Mortality Syndrome and as a result, may provide a solution to the challenges currently facing farms in Tasmania and New South Wales that are currently plagued by the disease.

This is definitely an information-packed issue of *food australia*! On behalf of the editorial team, happy reading.

**Georgie Aley**



## MARGINS TIGHTENING FOR AUSTRALIAN DAIRY FARMERS



Low global dairy prices, dry conditions and high input costs are tightening margins for Australia's dairy farmers and reducing national milk production, according to Dairy Australia's recent 2016 Situation and Outlook report.

The report, released in February, revealed international supply and demand remains out of balance. Any recovery for Australian dairy in the global marketplace is being quelled by increased northern hemisphere production, which is forcing prices lower.

Despite this, Dairy Australia industry analyst John Droppet said the stable domestic market and a more favourable exchange rate were helping to buffer the impact of declining world prices, high input costs and the dry season.

"The Australian market has remained a steady outlet for well over half of the industry's milk.

"Supermarket sales for dairy spreads continue to grow strongly, while cheese and yoghurt sales are steadier," said Mr Droppet.

Let's take a look at some of the numbers in Dairy Australia's latest report.

\$1.31

The average price per litre of UHT milk sales in supermarkets in 12 months to December 2015.

37.3%

Growth in retail value of infant formula in 12 months to October 2015.

2%

Growth in global demand for Australian dairy in 12 months to October 2015, particularly within price sensitive countries.

3.9%

Decrease in yoghurt and dairy snack sales in the year to October 2015.

Dairy Australia's revised milk production for 2015/16 anticipates an overall decrease of 1-2%.

\$9.65B

15%

The benchmark SMP (skimmed milk powder) price has eased almost 15 per cent since the October report.

By the end of November, Australian milk production was 0.8 per cent up for the 2015/16 season to date.

0.8%

4.8%

Increase in the value of non-dairy milks, particularly nut-based alternatives, over the 12 months to October 2015.



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## STUDY UNLOCKS THE CLUES TO NUT ALLERGY

New research has found that Australian-born children with Asian mothers have higher rates of nut allergy than Asian-born children who migrate to Australia.

The study, conducted by the Murdoch Childrens Research Institute and University of Melbourne, also revealed that children from urban areas are more likely to have a nut allergy than children from rural regions, and that nut allergy is more common among children of mothers with higher education and socio-economic status.

The findings are helping to shed light on Australia's allergy epidemic, as scientists piece together clues as to why food allergy rates continue to rise in Australia.

According to Murdoch Childrens Research Institute researcher Professor Katie Allen, migration from Asia after the early infant period appears to be a protective factor against the development of nut allergy.

"We know there are rising rates of migration from East Asia to Australia. Our finding that migration from Asia to Australia after birth can protect against early onset allergic disease, such as food allergy, provides a potent clue for us to follow when trying to understand why food allergy is on the rise," said Professor Allen.

She said the results suggest moving children from the Asian environment, or conversely exposing them to environment



risk factors in our Western environment, such as diet changes, microbial and UV exposure, uncovers a genetically determined risk of food allergy in children of Asian descent.

She said the research echoed this sentiment for children raised in rural areas.

Previous research from the Health Nuts study led by Professor Allen has shown unexpectedly high rates of nut allergy in Melbourne, leading to the city to be dubbed as the food allergy 'capital' of the world.

"The overall presence of nut allergy in metropolitan Melbourne was 3.4 per cent, compared with 2.38 per cent in non-metropolitan areas.

"The urban-rural difference could be down to the hygiene hypothesis, which raises the possibility that our urban environment with less diverse microbial exposure may contribute to the rise in allergies," said Professor Allen.

---

## NEW FOOD INDUSTRY HUB FOR BRAND AUSTRALIA

A new partnership with academia and the industry is set to position Australia as a premium brand in the food industry.

A new research hub in Australia will aim to gain insights into Asian consumer behaviour and market levers, while informing innovation in ingredient use, consumer experience and product design and packaging.

The \$10 million research hub launched by University of Melbourne and Mondelez International, 'Unlocking the Food Value Chain', will focus on six research streams on developing insights into Association of Southeast Asian Nations (ASEAN) markets and consumers, advanced packaging and presentation of food and efficient supply chain management.

Mondelez and the University have committed to share research outcomes with small- and medium-sized businesses and the wider sector through an open innovation model.

Director of the Hub, Professor Frank Dunshea, said the development of the 'Unlocking the Food Value' chain hub had been guided by the needs of the industry.

"The Australian food industry is driven by innovation – in how we target consumers, in the products we create, in how we market and deliver them," Mr Dunshea said.

"Businesses exporting to South-east Asia need to understand their market and how they can deliver the best possible product at competitive prices. This hub provides services which will enable Australian businesses to do so."

Professor Jim McCluskey, University of Melbourne Deputy Vice-Chancellor (Research), said the hub had great potential to deliver exceptional outcomes for Australia's food manufacturing industry.

"I am confident this research hub will help fulfil that potential and bring great results, both in maximising Australia's high-quality food exports, and supporting the future food customers of our ASEAN neighbours," Professor McCluskey said.

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## SENATOR FIONA NASH RULES OUT SUGAR TAX

Celebrity chef Jamie Oliver has praised the introduction of a tax on sugar-sweetened beverages in the United Kingdom, and has called for other countries such as Australia, Canada and Germany to introduce similar taxes as a way to fight obesity.

In a video he posted online, Mr Oliver declared that Australia needs to “pull its finger out”.

“This is bold and brave and this will send ripples around the world as far as how these weak, pathetic governments combat the rise in childhood obesity and diet-related disease.

“It’s about time your governments got on this. I know you’re all talking about it but you’re all scared of industry,” Mr Oliver said.

In response, Rural Health Minister Fiona Nash ruled out the introduction of a sugar tax in Australia saying that it is not the way to deal with the issue of obesity.

“This is about people’s ability to make their own choices. Government has a responsibility to ensure people are well informed so that they can make healthy food choices and to have policies in place that can contribute towards doing that.

“We have the Health Star Rating (HSR) system, which is working really well to help guide people to make healthier



choices. There are now 75 companies using the HSR, and more than 3000 products on the shelf.”

The UK tax will come into effect in 2018 and is expected to raise around \$1 billion, which will be used to fund sport in UK primary schools.

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## GROWERS SLAM PROPOSED CHANGES TO AWARDS

Growers have voiced their strong opposition to union proposed changes to the Horticulture Modern Award, with many reporting that increased wages would cause them to walk from the industry.

An analysis of a recent Voice of Horticulture Labour Issues Survey has forecast disastrous consequences if the Fair Work Commission approves changes to the Award.

Dr Alice de Jonge, senior lecturer in the Department of Business Law and Taxation at Monash University, said the survey attracted a large number of respondents from across the fruit, nut, cut flower and vegetable industries and there was overwhelming concern about the impact on farm businesses.

Seventy-five per cent of the respondents were considered small growers (less than 50 harvest workers) and 55 per cent of respondents had been farming for more than 25 years.

“It is obvious that the combined impact of a four hour minimum hire period and overtime rates paid to casuals would have significant effects on the vast majority of the industry,” said Dr de Jonge.

“A peak harvest season, casual employees formed by far the largest proportion of workers – around 84 per cent – the equivalent of 17,313 staff employed by survey respondents.”

Many of the farmers surveyed said the obligation to pay overtime to casuals would therefore be a threat to businesses, with many stating that it would be time to close down farms, ultimately meaning fewer jobs for Australia.

A further 78 per cent of respondents reported that labour costs were more than 25 per cent of total operating costs, with 35 per cent of growers reporting labour costs of more than 40 per cent of costs.

“With the proportionally high costs of labour and the large percentage of casual workers employed, it is clear that the proposed changes to the Modern Horticulture Award would devastate many businesses, at least in the absence of higher prices from supermarkets and other farm customers,” said Dr de Jonge.

The Voice of Horticulture has teamed up with the National Farmers’ Federation to defend the current Modern Award provisions.

## FOODBANK TEAMS UP WITH COLES TO HELP SA FAMILIES

A new campaign by Coles and Foodbank will make it easy for South Australian shoppers to help feed local families who struggle to put meals on the table.

Coles supermarkets throughout South Australia will offer customers the opportunity to buy food donation cards with values of \$5, \$10 or \$20, which will fund much needed food items for Foodbank’s warehouses and food hubs.

Foodbank SA chief executive officer Greg Pattinson said the donation cards, which will result in a range of breakfast, lunch and dinner foods reaching those who need them most, are a landmark initiative in the relationship between Foodbank and Coles.

“This is an innovative way for Coles to contribute even further to the fight against hunger in Australia. They’re already a major food and grocery donor to Foodbank and we’re thrilled to take this next step with them,” Mr Pattinson said.

Coles has worked nationally with Foodbank for the past 14 years, donating food and groceries each year that have been used to provide a total of 20 million meals.



Coles state general manager Neil Lake (left) and Foodbank SA CEO Greg Pattinson with Foodbank SA volunteer Lynette Mollard.

Coles state general manager Neil Lake said the supermarket was proud to work with Foodbank in South Australia.

“Coles has been donating food and grocery items to Foodbank for more than a decade to help families and individuals in need to put a meal on the table,” he said.

Food donated to Foodbank as part of the campaign will include meal time staples such as cereal, long-life milk, canned food and pasta.



## WORLD WATER DEFICIT

A new report by Rabobank warns that unless wide, sweeping investments are made in better water management, the world could face a 40 per cent global water deficit in less than 15 years.

*Agricultural Water – Free Flowing Markets Sustain Growth* argues that markets are an important part of ensuring the proper allocation of water to ensure that the agricultural industry has access to enough water to be economically viable to feed the growing world population.

Rabobank senior analyst Vernon Crowder said that food and agri suppliers and other leaders should be directly involved in the establishment of water markets to protect the long run economic sustainability of the agriculture industry.

“Globally, local governance and investment will be required in order to ensure stable water supplies but also to replenish current deficits caused by years of overuse in many countries.

“Water markets will increase the overall net benefit to society, increase the incentive for expanded investment, while decreasing risk for the agriculture sector as a whole,” said Mr Crowder.

The report notes that globally, many developed countries have, or are implementing, water markets. However, stages of development differ by country and region with only a few, if any, countries in the world that do not need to make changes.

Additionally, the report details how the decade-long drought in Australia has recently been faced.

Lauded as a success story, Australia has been used as a model of reform in recent years, with water markets used to provide an essential conduit where true economic value has been placed on water resources.

As a result of this, efficiencies have been gained in Australia, and new opportunities such as water trading have been used to manage farm incomes in the face of commodity price and drought risk.



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## CSIRO INNOVATION TO REDUCE INCIDENCE OF DARK MEAT RECEIVES ABARES AWARD



Barnaby Joyce, Deputy Prime Minister and Minister for Agriculture and Water Resources (left), CSIRO muscle biochemist Joanne Hughes, and Dr Kim Ritman, chief scientist at Department of Agriculture and Water Resources. Credit: Steve Keough.

A scourge of the meat industry, dark meat, could be improved thanks to innovative new research by CSIRO.

Dark meat, or dark cutting meat, is usually caused by undue stress on-farm or in transport, and until now most methods for improving meat colour have focused on pre-slaughter inventions.

Joanne Hughes, a muscle biochemist with CSIRO Food and Nutrition, has shown that cutting-edge high-pressure processing technology (HPP) under low temperatures can lighten the colour of high-value primal meat cuts.

Ms Hughes' work was recognised in March at the 2016 Australian Bureau of Agricultural and Research Economics and Sciences (ABARES) conference in Canberra, where she won the red meat processing category of the Science and Innovation Awards for Young People in Agriculture, Fisheries and Forestry.

Ms Hughes will use her funding to work with the red meat processing industry to reduce the incidence of dark meat, which, she said, could be costing the industry up to \$500 million per year, or \$1000 per animal.

"Over the next five years, we aim to reduce this loss by 20 per cent and save the beef industry alone up to \$100 million per year.

"Sometimes people in the industry tell me that HPP on fresh meat creates a 'cooked-like' appearance and meat goes brown in colours," said Ms Hughes.

"However, this is not the case when using lower temperatures and pressures. By using controlled conditions, we want to show that dark meat colours can be lightened with no adverse effects on eating quality.

"By improving the value of primals, such as the loin, we can help processors achieve a higher value for each carcass, in turn providing a solution to the dark meat colour problem."

In collaboration with Greenleaf Enterprises, CSIRO has developed a cost-benefit model to help processors determine the financial viability of adopting the technology.

Reducing the incidence of dark meat in the Australian industry will also ensure confidence in our product by export markets in Asia and elsewhere.

# ASIAN DEMAND FOR CHILLED MEAT TO GROW



Asian demand for chilled meat processed under Australian hygiene standards could eclipse live exports within decades, said a leading agribusiness analyst.

John Corbett of Hassad Australia, a leading Australian agricultural company committed to excellence in food production, said wealthier Asian consumers will increasingly demand quality meat processed under strict food safety standards in Australia, instead of at abattoirs at home where concerns over water contamination are rife.

Speaking at the Australian Bureau of Agricultural and Research Economics and Sciences (ABARES) conference in Canberra recently, Mr Corbett said it was so they have absolute clarities around where it's sourced from and that it has no contamination issues.

"As it evolves, the higher end value consumer will want their black Angus and they'll want it from Australia, processed in Australia," Mr Corbett said.

The live export industry would evolve to meet the demand as wealthier consumers seek top quality chilled meat exports, either as a packaged product or carcass.

In his presentation, Mr Corbett pointed to Indonesia as an example, where most people cannot refrigerate their meat and rely on live Australian cattle to be processed at abattoirs and sold on the same day. However, this system would become inefficient as Indonesians become wealthier and seek chilled products at the supermarket.

Mr Corbett cautioned that chilled meat demand would not overtake that of live cattle and sheep overnight, and live exports remained an important market. <sup>13</sup>



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### AEGIC welcomes new CEO

The Australian Export Grains Innovation Centre (AEGIC) has appointed Richard Simonaitis as its new chief executive officer following the departure of David Fienberg last November.

Mr Simonaitis joins AEGIC with an extensive background in export-focused commodities industries. He has held roles in logistics and product quality in the iron ore industry, as well as being in senior management roles in the grains industry.

AEGIC chair Terry Enright said Mr Simonaitis brings a wealth of experience in the Australian grains industry.

“Richard has a significant track record in senior management roles across grains logistics, operations, marketing and trading.

“The AEGIC board is confident Richard is an ideal choice to help continue to cement AEGIC’s important place in the Australian grains industry and take the company to the next level,” said Mr Enright.

Mr Simonaitis commenced his role with AEGIC in late February this year.



Richard Simonaitis

### Farewell MLA GM for red meat innovation

Meat & Livestock Australia’s (MLA’s) general manager for red meat innovation, Alex Ball, will leave the company in April.

He has spent 18 years working at MLA in a variety of research and development roles, mostly in genetics and meat science.

In recent years he has taken a higher industry profile, leading producers and other industry groups through the development of new technologies for better quality and yield understanding of beef and lamb carcasses.

“I’ve been very, very lucky to be part of some really strong innovations and changes across the industry, and have enjoyed every minute of it,” said Dr Ball.

Dr Ball has accepted a role as group manager for beef production systems innovation with Teys Australia.

He will be replaced at MLA by Dr Jane Weatherley who has spent the past three years as MLA’s manager for communication and extension.



Dr Alex Ball

### New leader for food safety at SAI Global

SAI Global has announced the appointment of Dawn Welham as global technical director and thought leader. The appointment is part of the organisation’s continued plan to expand its expertise in retail, food and agribusiness industries.

With a wealth of experience across food product safety, public health, consumer protection and occupational health and safety, Ms Welham will help drive existing retail, food and agribusiness expertise across 100 countries, with a focus on Asia Pacific.

Chief commercial officer of SAI Paul Butcher said Ms Welham is a seasoned industry professional, with much of her experience driving technical leadership for businesses.

“SAI is dedicated to working with industry to create consumer trust by building ethical business practices, streamlining processes and managing complex risk issues across the risk lifecycle,” said Mr Butcher.

“With the increasing industry focus on food safety and supply chain improvement, Dawn’s fantastic experience will allow us to continue helping customers in the retail, food and agribusiness industries improve their businesses and products.”



Dawn Welham



From left: Australian Made Campaign Glenn Cooper, former Prime Minister John Howard and first patron of the Australian Made Campaign, Robert Gerard.

### First patron of Australian Made Campaign

Robert Gerard AO has been appointed as the first ever patron of the Australian Made Campaign.

Announced by chair Glenn Cooper AM, Mr Gerard was appointed in the presence of senior business leaders, including former Prime Minister John Howard OM AC.

Mr Gerard was instrumental in forming Australian Made Campaign Ltd, serving as director for 15 years, and was chair in 2011–2009.

Mr Gerard is well-known nationally and internationally for his contributions to Australia’s business community, and has also had a significant impact on Australia’s educational and sporting communities.



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## FROM THE CEO



The first quarter of 2016 has been a busy one at AIFST. We have more than 18 events planned for 2016. It enables members to expand their knowledge and networks with likeminded people who share a passion about the future of the Australian food industry.

I encourage you to review our full program of events, including the range of Continuing Professional

Development (CPD) opportunities, on the AIFST website, [www.aifst.asn.au/events](http://www.aifst.asn.au/events).

In March, AIFST hosted the 2nd Asia Australia Food Innovations Conference in Perth. The event was a great success, with national and international speakers sharing

the key consumer, research and trade insights and emerging trends to help the industry capitalise on and reach our potential in the Asian region.

Organisation of our flagship annual event, the 49th Annual AIFST Convention, is now in full swing. With the Australian Government naming food and agribusiness as one of the five key areas of growth for Australia's economy, this year's program emphasises the role of the food sector in delivering against the Government's innovation agenda, and features an impressive bill of speakers. You can read more in the article on page 14, or visit [www.aifst.asn.au](http://www.aifst.asn.au) to view the full program and register to take advantage of our early bird prices.

Finally, just a reminder that the AIFST Annual General Meeting (AGM) will be held on 19 May 2016 at the AIFST Office, Level 1, 40 Mount Street, North Sydney at 10am. Registrations will start from 9.30am.

I look forward to seeing as many of you as possible at the AGM. In the meantime, if you have any questions or feedback, do not hesitate to get in touch at [georgie.aley@aifst.com.au](mailto:georgie.aley@aifst.com.au) or call 02 9394 8650.

**Georgie Aley**

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## NEW PROJECT TO BRING HEALTHY FOODS TO THE TABLE

Words by Sarah Hyland

Food processors are under increased pressure to produce healthier foods in response to heightened consumer demand for healthier options and due to a government push on legislation to improve the 'healthiness' of processed foods.

Food Innovation Australia Ltd (FIAL) has identified this as an area of great opportunity and potential for the industry, and has teamed up with the Department of Economic Development, Jobs, Transport and Resources, the Department of Health and Human Services and AIFST to develop a joint pilot project, titled 'Building Healthier Foods', to support industry innovation for healthier products.

Reformulation of foods in order to improve their healthiness can be more complicated than anticipated. Even the seemingly simplest of changes can impact shelf life, process settings and product stability. Indeed, consumer acceptance can alter due to changed organoleptic properties of the product.

The Building Healthier Foods project aims to design and build a channel to support industry growth and innovation, expedite problem solving and connect technical and operational networks and consultative expertise with the industry.

The project will see the establishment of a Communities of Practice in Food Nutrition and Food Technology, operating collaboratively using a virtual technology platform. Through this platform, the project will be able

to build capability in food enterprises, enabling them to reformulate and innovate to manufacture healthier food options for the community and achieve further commercial value for future organisational sustainability.

As part of Building Healthier Foods, AIFST is linking the project with food professionals and specialists in the area of formulation, processing and food quality and safety.

AIFST participated in the project by undertaking market research among small- and medium-sized enterprises (SMEs) in the food industry and consulting food professionals in order to quantify and qualify the need for such a project, and to what degree it can technically assist SMEs and connect them to a range of professional food consultants.

The results of the research showed that such a platform would be a positive means to connect SMEs and food professionals to solve problems around food reformulation. Both groups indicated that such a service is absolutely needed to solve immediate healthier food formulation and processing issues, but could also represent an opportunity to improve collaboration and drive innovation for the Australian food business as whole.

*Sarah Hyland is AIFST's general manager – industry services. If you are interested in learning more about the 'Building Healthier Foods' project, or would like to be involved, please contact Sarah at [sarah.hyland@aifst.com.au](mailto:sarah.hyland@aifst.com.au) or call 02 9394 8650.*



## AIFST SUMMER SCHOOL

Close to 50 students gathered in Wagga Wagga, New South Wales, in January to discuss the future of the rapidly evolving food industry.

Held over three days, the annual AIFST Food Science Summer School generally attracts Masters and PhD students, but this year it also attracted a number of undergraduates presenting projects and new research.

Students had the opportunity to hear from some of Australia's best food scientists, with all presentations focussed on innovation and preparing the next generation of food professionals to feed the world's growing population.

CSIRO's Ingrid Appelqvist shared her insights on unlocking Australia's innovation to transform the food and agribusiness industry, while Svenja Beck discussed the increasing consumer demand for healthy foods and how this is driving the development of novel approaches – for example, using pulse protein as a sustainable alternative to animal-based protein.

Several academics, including Vijay Jayasena and Svenja Beck from UNSW, Stefan Kasapsis RMIT and Anthony Saliba from CSU, provided their insights into how the students can transfer their current research into real-world applications.

The information-dense program left participants inspired about their future in the Australian food industry.



Participants from the 2016 AIFST Food Science Summer School.

*Not all presenters have been acknowledged in this article, but AIFST would like to thank all who presented at the 2016 AIFST Food Science Summer School as well as our wonderful hosts, Charles Sturt University, Wagga Wagga, NSW.*

AIFST is seeking Expressions of Interest from educational institutions to host the 2017 AIFST Food Professional Summer School on 1–3 February 2017.

For more details, please contact AIFST CPD Coordinator Bronwyn Graham at [bronwyn.graham@aifst.com.au](mailto:bronwyn.graham@aifst.com.au) or call 0413 017 197. Expressions of Interest close 5pm on Friday, 29 April 2016.

## COMPELLING LINE-UP FOR 49TH ANNUAL AIFST CONVENTION



An impressive line-up of food industry experts will gather in Brisbane on 27–28 June 2016 for the 49th Annual AIFST Convention at the Brisbane Convention & Exhibition Centre.

From producers, leading small- and medium-sized enterprises, and food scientists

to trends analysts and policy makers, this well-regarded food industry event will be Australia's biggest food industry gathering of 2016.

Each year, the Annual AIFST Convention gathers a delegation of around 500 food industry professionals. This year is set to be even bigger and better with our co-location with Foodtech Queensland, the new, major trade event for the food and beverage industry.

The theme for 2016 is *The Pulse of the Industry*, covering the latest trends, innovations, technologies, challenges and opportunities. In addition, the program will provide delegates the chance to hear firsthand case studies from the best in the business.

A panel of chief executive officers from some of Australia's leading food companies and invited international guests will debate the big issues facing the industry, from catering for a growing Asian market to trends towards functional foods and foods for an ageing populations. Panelists include:

- Terry O'Brien, chair of the Australian Food & Grocery Council, and managing director of Simplot
- Alastair Mclachlan, CEO of Preshafruit
- Dr Ben Lyons, CEO of Toowoomba Surat Basin Enterprise and Food Leaders Australia
- Dr Andre Teixeira, entrepreneur-in-residence at CSIRO and leading global innovation expert
- Janice Rueda, head of nutrition at Archer Daniels Midland based in the USA.

Futurist and founder of IBISWorld, Phil Ruthven, will be presenting on the major social and demographic trends influencing the direction of the food industry, from production agriculture to the changing manufacturing landscape. Chris Blanchard, director of the Functional Grains Centre, will also present at the Convention to discuss the rise of pulses as a key ingredient in functional foods.

The much-loved Wine and Cheese Evening will be the star of the social program as the new Wine and Cheese Tasting Sensation evening is unveiled. This will give guests the chance to enjoy a showcase of Queensland produce and wine, while networking with delegates, industry representatives, Foodtech Queensland exhibitors and Convention speakers.

Contact AIFST sales and advertising manager Mel Malloch at [mel.malloch@aifst.com.au](mailto:mel.malloch@aifst.com.au) or call 02 9394 8650 to discuss your company's involvement in this premier event today – don't miss out!

# 2016 STUDENT PRODUCT DEVELOPMENT COMPETITION

Teams of Undergraduate and Postgraduate students will be showcasing the future of the food industry in Australia at the 49th AIFST Annual Convention.

These student teams are finalist entrants in the Student Product Development Competition convened annually by AIFST, demonstrating innovative new pulse products to the market as part of the International Year of Pulses (IYP).

Entrants were given the opportunity to develop a new or significantly renovated product for a predetermined market; a task which has proven very popular, with the highest number of entries submitted in the history of the competition.

This year also represented changes to the rules as for the first time Postgraduate teams were also able to submit entries.

Products proposals submitted represent many different product categories including innovative frozen offerings, pasta and sweet and savoury snack options, all containing

pulses or legumes as a significant component. The future of the food industry is looking tasty in the hands of such innovative up-and-coming talent.

This year's AIFST Student Product Development Competition 2016 finalists will have the chance to win a \$10,000 cash prize for their team donated by Retail Food Group, Australia's largest multi-food franchise operator, along with a unique work placement opportunity in RFG's world class product development team.

The owner and operator of brands including Crust, Gourmet Pizza, Michel's Patisserie, Brumby's Bakery and Donut King, RFG will be working with one team of finalists to develop products to be launched nationally through their franchise outlets, visit their website at [www.rfg.com.au](http://www.rfg.com.au).

The Student Product Development Competition is supported by RFG, ADM, Chobani, Sanitarium, Simplot / Edgell, Foods from the Earth. <sup>4</sup>

AIFST would like to thank our 2016 Student Product Development Competition Sponsors



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# INNOVATION AND AGILITY – BUZZ WORDS OR GUIDING LIGHTS?

*There is often confusion from policy makers and the wider community on where funding for R&D goes, leaving manufacturers constantly having to argue the value of R&D.*

Words by Dr Geoffrey Annison

As a technologist living in a technical world, I'm amazed at how often the policy framework for supporting research and development (R&D) is brought out for review. Most commonly, it is to ensure tax payers are getting value for the money that the government spends on R&D support mechanisms. It leaves me wondering how the mechanisms driving technical advances in all areas from electronics to medicine, engineering, sustainability, as well as food and agriculture, remain so opaque not only to policy makers, but also to the wider community.

Despite economists in the past century identifying in economic theory, the critical role of technical innovation in contributing to total factor productivity in economies (that is the sum of labour productivity, capital productivity and technical advancement leading to efficiency gains), it seems to be a never-ending battle convincing politicians, and to some extent the bureaucracies that serve them, that pay-back from R&D is higher than most other investments when considered in aggregate.

Perhaps it is ourselves, the technologists, who are responsible for the opaqueness of the scientific method. We not only cloud much of our work in obscure technical language, but we also seem to revel in the concept of uncertainty of outcome when conducting research. Indeed, we almost boast that if we knew the outcome, we wouldn't need to do research! Put together, it is hardly surprising that we keep having to argue the value of R&D with those who pay for it (at both a company level, or with government),



particularly when competing with other priority areas for funds.

Of course, the trick is to hammer home the point about the benefits, which accrue from R&D. Projects fail, and projects succeed, but overall, the returns on investment in R&D are high. Innovative companies appreciate this, and employ a portfolio approach with a range of R&D activities moving down an innovation pipeline. Governments employ a variety of R&D support mechanism from block grants, matching contestable grants, industry matching funds to targeted tax concessions.

Most recently, the Federal Government has been conducting a review of the R&D Tax Incentive. A key issue stakeholders have been asked to consider is that of additionality. In short, the purpose of the R&D Tax Incentive is to lead to additional research by companies, rather than providing a discount for business as usual research. The Government wants to be confident that this is being achieved.

In the Australian Food & Grocery Council's submission, it was noted that within companies, R&D expenditure

competes with other investments that companies may make to improve competitiveness. This is essentially a risk and reward evaluation. Some decisions may be straightforward with companies determining that an R&D activity is essential simply to stay in business. Other R&D activities may hold the promise of a completely new product and market, leading to business growth and ultimately greater shareholder value.

Within the risk and reward evaluation of individual research projects, the impact of the R&D Tax Incentive will be variable, but it will be particularly valuable for projects where the reward being worth the risk is marginal against internal company metrics. Reducing the cost of the research can tip a decision firmly in favour of pursuing the project. It is for these projects that the R&D Tax Incentive is clearly meeting the goal of leading to additional R&D activity.

The AFGC's submission also stated that the R&D Tax Incentive may lead to additional R&D simply by supporting the notional value of R&D within a company. It provides weight to the argument



regarding the value of R&D *per se*, within companies and a further justification to the R&D expenditure within companies. In doing so, it helps to engender a culture of technical innovation within the company, increasing the likelihood of R&D spending. Again, this illustrates a further mechanism by which the R&D Tax Incentive can lead to additional R&D activity.

So balancing the current R&D Tax Incentive Review and last year's review of the Cooperative Research Centre program with the Commonwealth Government's most recent policy statements, such as the National Innovation & Science Agenda, is it indeed the case that there has "never been a more exciting time to be Australian"<sup>1</sup>, and that "...The Australia of the future has to be a nation that is agile, that is innovative, that is creative."<sup>2</sup> ? Hopefully the answer to that is yes.

There is no doubt that for Australia to diversify its economy away from reliance on resources sector, it will need to be competitive in the sectors it chooses to play in. Competitiveness is built on creative, agile continuous innovation in products and processes, which is as true in the food manufacturing sector as any other.

The AFGC has long argued for Government policy settings that are critical for the competitiveness of Australian food manufacturers in the domestic and overseas markets, such as:

1. A regulatory reform agenda – removing the drag on innovation of unnecessary red tape (see accompanying article on page 20).
2. Encouraging foreign investment and reinvestment, including from multi-national food and beverage companies, as they bring capital, technical know-how, global supply chain and distribution systems, as well as in-depth knowledge of many overseas markets.

3. Building more efficient infrastructure including road, rail and ports to reduce transport costs.

4. Appropriate mechanisms and levels of support for R&D.

The argument for Government support of R&D in the private sector is also well described in economic theory. In essence, it is to correct the market failure that companies will innovate less than they should due to their failure to exclusively appropriate all of the benefits. Indeed, substantial benefit may 'spill over' to the wider community including into other companies.

As food scientists and technologists, it is incumbent upon us all to explain better the value of R&D and technical innovation in contributing to economic progress and better quality of life. I would suggest in the public policy arena this means shifting the emphasis towards the economic arguments rather than discussing potential technological advances and products of the future. Although we live a technical world, the truism that 'money makes the world go around' still applies. We just have to make sure the economist at the policy level understands that some of that money has to go through R&D activities. If we do so, we will indeed have exciting times ahead. 🍷

*Dr Geoffrey Annison, PhD, is deputy chief executive and director of health nutrition and scientific affairs at the Australian Food & Grocery Council.*

#### References

1. [www.innovation.gov.au/about](http://www.innovation.gov.au/about)
2. [www.malcolmturnbull.com.au/media/transcript-vote-on-the-liberal-party-leadership](http://www.malcolmturnbull.com.au/media/transcript-vote-on-the-liberal-party-leadership)



**Dr Geoffrey Annison** will be presenting at the **49th Annual AIFST Convention, 26-28 June 2016**, on the current regulatory landscape.



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# 2016 MARKS BIG CHANGES IN FOOD REGULATION

*There have been a number of recent changes to food regulations in the past few months. FSANZ gives us an update.*

Words by Lorraine Haase

Already this year we have seen major changes to food regulation in Australia and New Zealand, with the end of the transition period for the new health and nutrition claims standards of the Australia New Zealand Food Standards Code, as well as a revised Code coming into effect.

## Nutrition and health claims

The Nutrition and Health Claims Standard (Standard 1.2.7) officially became law on 18 January 2013, but businesses were given three years during which they could comply with either the old standard or the new one. From 18 January 2016, the new standard is the only one that applies.

Nutrition content claims and health claims can be defined as voluntary statements made by food businesses on labels and in advertising about a food. These claims can be about the content of certain nutrients or substances in a food, such as 'low in fat' or 'good source of calcium', and will need to meet certain criteria set out in the Standard. For instance, when using a 'good source of calcium' claim, the food will need to contain more than the amount of calcium specified in the Standard.

Health claims refer to a relationship between a food and health rather than a statement of content. There are two types of health claims:

- General level health claims refer to a nutrient or substance in a food and its effect on a health function. For example, calcium is good for bones and teeth. General level health claims

must not refer to a serious disease, or to a biomarker of a serious disease.

- High-level health claims refer to a nutrient or substance in a food, and its relationship to a serious disease or to a biomarker of a serious disease. For example, diets high in calcium may reduce the risk of osteoporosis in people 65 years and over. An example of a biomarker health claim is that phytosterols may reduce blood cholesterol.

Food businesses wanting to make general level health claims will be able to base their claims on one of more than 200 pre-approved food-health relationships in the Standard, or self-substantiate a food-health relationship in accordance with detailed requirements set out in the Standard.

High-level health claims must be based on a food-health relationship pre-approved by Food Standards Australia New Zealand (FSANZ). There are currently 13 pre-approved food-health relationships for high-level health claims listed in the Standard.

All health claims are required to be supported by scientific evidence to the same degree of certainty, whether they are pre-approved by FSANZ or self-substantiated by food businesses. Food-health relationships derived from health claims approved in the European Union, Canada and the USA have been considered for inclusion in the Standard. Health claims will only be permitted on foods that meet the nutrient profiling scoring criterion (NPSC). For instance, health claims

will not be allowed on foods higher in saturated fat, sugar or salt.

Endorsements that are nutrition content claims or health claims will be permitted, provided the endorsing body meets requirements set out in the Standard.

FSANZ and enforcement agencies in Australia and New Zealand have produced a publication—*Getting your claims right*—to help food businesses navigate the standard. It can be found at <http://www.foodstandards.gov.au/publications/Pages/gettingyourclaimsright.aspx>.

## A new Food Standards Code

The revised version of the Food Standards Code came into effect on March 1 2016. FSANZ reviewed the Food Standards Code to make the requirements clearer, and to ensure it better meets the needs of stakeholders.

The Code is enforced in Australia by state and territory authorities, the Commonwealth Department of Agriculture for imported food, and the Ministry for Primary Industries in New Zealand. One of the reasons for changing the Code was to ensure it was more closely aligned with the food Acts of the Australian and New Zealand Governments, as well as the Australian states and territories, which rely on requirements to be clearly stated. The changes will reduce uncertainty when it comes to Code enforcement issues.

The entire Code has not been updated. Most of the changes were

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made to chapters one and two and while the Code will look different, there have been no major changes. The changes that have been made include updating the wording to clarify key areas, such as:

- The Code's requirements, to make it clearer who has to comply.
- Provisions relating to food additives, processing aids and nutritive substances.
- Food composition requirements, to clarify when a requirement is:
  - o legally required for the sale of a product, or is
  - o a prerequisite to permission, for example to add a food additive.

A dictionary of defined terms that will help users navigate the Code more easily is also included in the revised Code.



### What's in the pipeline?

One of the other major projects FSANZ is working on is a review of the infant formula section of the infant formula products standard (Standard 2.9.1 – Infant Formula Products). This is a complex piece of work and will involve several stages of consultation.

The aim of this work is to ensure that the regulation of infant formula is clear and reflects the latest scientific evidence. We are also considering harmonising the Code with international regulations.

FSANZ has completed an extensive and comprehensive review of issues with current regulations and is seeking stakeholder views on a consultation paper. Submissions are due 17 May 2016.

These are the key areas we are seeking feedback on:

- Whether compositional changes should be made to align with the Codex requirements for essential nutrients.
- Whether changes are required for labelling on how to prepare, use and store infant formula.
- Whether infant formula labels should include information about compositional changes in ingredients and an explanation for the change.
- Approaches to regulation of new substances in infant formula.

While nothing is set in stone, there are some key requirements in the current standard that FSANZ does not think will change, including the advisory statement,

'Breast milk is best for babies. Before you decide to use this product, consult your doctor or health worker for advice.'

The current prohibition on making nutrition and health claims on infant formula products is also expected to generate debate.

### Labelling review work

Over the past couple of years, FSANZ has been working on 12 recommendations that arose from an independent review of food labelling. The organisation is now in the home stretch, having completed work on 10 of these recommendations as requested by ministers responsible for food regulation.

Work undertaken varied from another survey of trans fats in the food supply to inform advice on whether mandatory labelling of trans fats should be introduced to advice on whether total and naturally occurring dietary fibre content should be shown on nutrition information panels. The results of FSANZ's work to date can be found on its website, [www.foodstandards.gov.au/consumer/labelling/review](http://www.foodstandards.gov.au/consumer/labelling/review).

FSANZ is currently working on the final two recommendations to provide technical advice to ministers by the end of this year.

We are currently assessing the recommendations to:

- Expand the ingredient list on food labels so the terms 'added sugars' and 'added fats' and/or 'added vegetable oils' are used, followed by a bracketed list with the names of each specific ingredient.
- Review the requirement to label that a food has been irradiated.

Consultation with key stakeholders has been a key part of our work on the recommendation related to mandatory labelling of irradiated food.

The Food Standards Code currently states that when a food or food ingredient has been irradiated, it must be labelled with a statement to the effect that it has been treated with ionising radiation. This requirement applies to packaged and unpackaged irradiated foods, when sold to consumers.

While ministers asked FSANZ to assess the current requirements, they did not ask for the Code to be changed, so no removal of the current labelling requirement is being proposed at this time. FSANZ is investigating stakeholder understanding and views on food irradiation labelling, and is identifying economic and technical issues associated with the requirement.

A consultation paper on the recommendation has been released and submissions closed on 29 March 2016. The paper can be found at [www.foodstandards.gov.au/consumer/labelling/review/Pages/Labelling-review-recommendation-34irradiation-labelling.aspx](http://www.foodstandards.gov.au/consumer/labelling/review/Pages/Labelling-review-recommendation-34irradiation-labelling.aspx)

*Lorraine Haase is the manager of communication and stakeholder relations at FSANZ.*



Dr Glen Neal from FSANZ will be presenting at the **49th Annual AIFST Convention, 26-28 June 2016**, providing an update on the food standards landscape.



# IMPACT OF REGULATORY CHANGES ON THE FOOD INDUSTRY

*AFGC gives us their perspective on the major changes that the Australian food industry has seen so far this year.*

Words by Chris Preston

The first quarter of 2016 has seen almost unprecedented activity in food regulation, as well as the most significant changes since a new Australia and New Zealand Food Standards Code came into existence in 2002.

Top of the list for many people is Country of Origin Labelling. The Australian Government announced its intention to introduce a labelling standard under the Competition and Consumer Act, which would see 'mandatory, graphical and proportional' pictograms for foods made or produced in Australia, and lesser but still important changes for imported foods. Mirroring the approach of Oliver Cromwell, the Government then proceeded to cancel Christmas by releasing a six-part Consultation Regulatory Impact Statement (CRIS) in December, with submissions due at the end of January.

For packaged products that are grown, made or produced in Australia, the proposed standard requires an 'origin box' to be included in the label, containing three elements: a 'kangaroo in triangle' logo signifying production in Australia, a bar chart displaying the percentage of Australian content in the product, and a text statement providing essentially the same information as the graphics.

The logo, bar chart and text is also to be required in relation to displays of unpackaged Australian foods.

Imported foods do not require the logo or bar chart, but still require an



origin box containing prescribed text describing the origin of food.

Foods identified as 'non-priority' foods (whether domestic or imported) are excluded from the box, logo and bar chart requirements, but will still need to carry a text statement as to their origin.

Some key issues that arose in the CRIS include:

- How the Information Standard should be implemented, the choice being between a flat two-year period and a staggered three, six, 12 and 24 month implementation based on product shelf life
- The definition of 'substantial transformation', which proposed a new requirement that every ingredient and component in the product be transformed (this would apply to all products, not just foods)
- The need to refine the list of 'non-priority' foods
- The need for practical methods if averaging of Australian content is to be allowed, and the associated need for a safe harbour to protect companies relying on the prescribed method

- The need for flexibility in the text part of the mandatory requirements.

The Federal Government is now considering responses to the CRIS. While no timetable has been set for announcements, it is understood that the Government would like to have the whole package of reforms ready to commence from the middle of this year. However, the package requires legislative change, the making of new regulations and the repeal of the Food Standards Code provisions, so there is a bit of work to do if the package is to be ready within that timescale.

Speaking of the Food Standards Code, you may have seen FSANZ Proposal P1041 sent out for comment in February / March this year, which is the proposal to repeal Standard 1.2.11 and related references to origin labelling from the Food Standards Code.

Finally, it is worth noting that New Zealand is not getting involved in this debate, and has no intention of following the Australian Government down the origin labelling rabbit hole. They seem very happy to have no mandatory origin labelling, and treat the issue as one of marketing rather than mandated law.

Some other big news is the entry into the full force of Standard 1.2.7 – Nutrition, Health and Related Claims. This Standard was published in 2013, and came into effect on 18 January 2016. Importantly, there is no 'stock in trade' allowance for the Standard, therefore all foods now on the market must comply with the new rules.



The industry in general has known that this day would come, and the past three years have been spent modifying claims and labels in order to be compliant. Although there are some particular watch-outs, probably the least understood relates to nutrition content claims. The new Standard lists some nutrients in Schedule 4 to the Food Standards Code, and specifies 'qualifiers' like 'rich in', 'reduced' and so on, which can be used in relation to those nutrients if certain conditions are met.

All well and good, but there is a new requirement that no qualifiers at all are allowed for nutrients that are not listed in Schedule 4. A classic example would be 'antioxidants' (the nutrient, not the additive) that is not specified in Schedule 4. Previously, a claim such as 'rich in antioxidants' was permitted, whereas under the new Standard such a claim is prohibited. The only claims allowed for non-Schedule 4 nutrients are these referring to simple presence, absence or specified quantity.

There seems to be a perception in some quarters that the new Standard is not going to be enforced by State and Territory food officials. A word of warning: this is certainly NOT the case. It is true that jurisdictions are more likely to take an educative approach at first should a contravention be alleged, but the expectation is that all jurisdictions, to greater or lesser degrees, will be undertaking label

surveys to identify claims that are no longer permitted, and will pursue follow-up action to ensure labels come into compliance. "Compliance Not Complacency" needs to be the catchcry for the new Standard.

Another major reform is commencement on 1 March of a rewritten, more enforceable Food Standards Code. The basic rule of thumb is that nothing substantive has changed, despite the new language and presentation of the Code.

There are some important elements of the new Code that you should note, in particular:

- Standard 1.1.2 is now a dictionary of defined terms, containing either the definition or a signpost to where in the Code the definition can be found
- Most of the schedules and tables in Standards have been taken out of the Standard and placed at the end of the Code – there are 29 such Schedules, and the ordering reflects the new Code rather than the old, so it can be hard to track down previously familiar information
- Standard 1.1.1 provides a more detailed explanation and statement of how the Code operates in conjunction with State and Territory Food Acts, and basic principles such as a list of substances that are not permitted to be used in food
- Standard 1.2.1 provides a more detailed and explicit list of the labelling obligations that apply to various classes of food.

There are many other changes underway – FSANZ is looking at Novel Food and Nutritive Substances (P1024) and a revision of the Standard for Infant Formula (P1028), moves are afoot to reform weight and volume markings, the need to regulate chemical migration from packaging is under active consideration, proposals relating to Allergen Labelling Exemptions (P1031) have been approved, and the list goes on. It is a great time to be a participant in the Australian food regulatory system.

*Chris Preston is the director of legal and regulatory at the Australian Food & Grocery Council.*

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# SUBSTANTIATING HEALTH CLAIMS

*In the light of FSANZ Standard 1.2.7, CSIRO takes a look at substantiating health and related claims.*

**Words by Malcolm Riley and Welma Stonehouse**

Nutrition content claims and health claims are voluntary statements made by food businesses on food labels, in advertisements and in endorsements on food. When making these claims, all food businesses in Australia and New Zealand must comply with Standard 1.2.7: Nutrition, Health and related claims of the Food Standards Code.<sup>1</sup>

A claim is not allowed to refer to the prevention, diagnosis, cure, or alleviation of a disease, disorder or condition, and is not allowed to compare a food with a good that is for therapeutic use, or likely to be taken for therapeutic use.

Allowable claims include nutrition content claims, which relate to the content of nutrients or substances (such as 'low in fat', or 'gluten free') and health claims, which relates to a relationship between a food and health (such as 'contributes to normal cognitive function', or 'necessary for normal protein synthesis').

There are two types of health claims—general level health claims which refer to the effect of a nutrient or substance on a health function, and high level health claims, which refer to the relationship between a nutrient or substance and a serious disease or its biomarkers. For a detailed definition of each type of claim, refer to the FSANZ Food Regulation update on page 18.

There are 200 pre-approved food-health relationships in the standard for general level health claims and 13 pre-approved relationships for high level health claims listed in the standard.

Beyond these pre-approved relationships, businesses wanting to establish a general level health claim



can do so by self-substantiation in accordance with detailed requirements set out in Schedule 6 of Standard 1.2.7. This requires a process of systematic literature review – either a systematic review of the original scientific literature or by updating an existing systematic literature review.

## **Systematic literature review**

Regardless of whether they are pre-approved by FSANZ or self-substantiated by food businesses, health claims are required to be scientifically supported to the same degree of certainty.

A systematic literature review is a significant undertaking, requiring an understanding of the explicit systematic process and specialist skills for appraising data arising from clinical trials and epidemiological studies. The person or group undertaking the systematic review would be expected to have a degree in a scientific- or health-related discipline (of at least three years

duration) from an appropriate tertiary education institution and one or more of the following: a) training in critical appraisal or biostatistics from a tertiary institution, b) a postgraduate degree (e.g. MSc, PhD) in a scientific or health related discipline, or c) a specialist medical or health qualification.<sup>2</sup>

It is possible that businesses underestimate the amount of work required to complete a systematic literature review to support a health claim. Experienced scientists will be skilled in developing a systematic search protocol appropriate to a particular need (i.e. an appropriately formulated research question).

Typically a search will require processing of many hundreds of scientific reports to assess for applicability. After identifying appropriate study reports, the research designs, study conditions, characteristics of study subjects and how results are expressed are all likely to differ across the collection of studies.



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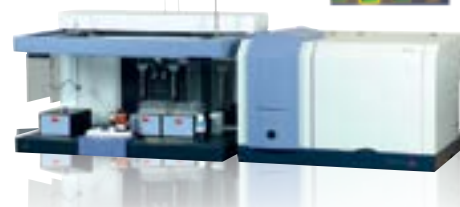
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**PIONEERING DIAGNOSTICS**

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It is generally well understood that a single study is insufficient to provide compelling support for a food-health relationship. What may be less well understood, however, is that even where multiple study reports are identified, the conclusions of a systematic literature review may need to be qualified because of the similarity of subject type, inconsistency of study results, or too few comparable studies of adequately assessed quality.

The investment required to develop a systematic literature review and dossier to self-substantiate a general level health claim is significant, however it is conceivable that health claims in relation to food will help guide consumer choice and be supported by health professional recommendation.<sup>3</sup>

### Wording of a health claim

The wording of a health claim is not specified by Standard 1.2.7, and therefore, for self-substantiated health claims, the conclusions of the systematic literature review are of vital importance in order to formulate the health claim to be used. It may be useful to have a systematic review report peer reviewed.

The wording of a health claim using a food-health relationship that is pre-approved by FSANZ is also not specified by Standard 1.2.7, although the parameters for it are listed in Schedule 4 of the Standard. Expert advice, including review of the scientific literature, may also be useful to explore specific wording that meets the requirements of a pre-approved health claim.

### Notification of self-substantiated health claim

If a self-substantiated general level health claim is to be made, FSANZ must be notified, and certification given that the food-health relationship has been established by a process of systematic review as described in the Food Standard. Notifications are published on the FSANZ website ([www.foodstandards.gov.au/industry/labelling/fhr/Pages/default.aspx](http://www.foodstandards.gov.au/industry/labelling/fhr/Pages/default.aspx)), but publication of the notification does not indicate acceptance or validation of the stated relationship by FSANZ.

An examination of the notifications published may provide a perspective for how businesses in Australia and New Zealand are thinking about health claim use in relation to food. The number of notifications that have been published for general level health claims from March 2014 to January 2016 is 37. About 20 businesses have made the notifications and therefore have certified that they hold a dossier, which includes a systematic literature review meeting the requirements of Schedule 6 of Standard 1.2.7 and supporting the food-health relationship notified.

There are 31 different listed health effects, although some appear similar in meaning with variations in wording. Categorisation is somewhat subjective but 10 notifications relate to gut health, seven to energy, four to blood glucose, four to weight loss, three to satiety and nine notifications relating to other health aspects.

Only two of the pre-approved food-health relationships relate directly to gut health – these being ‘contributes to regular laxation’ (for dietary fibre) and ‘improves lactose digestion’ (for specified live yoghurt cultures in individuals who have difficulty in digesting lactose). While the number of pre-approved food-health relationships that are identified with energy is higher at 23, the nature of the stated health effects appear qualitatively different to the health effects identified in notified self-substantiated food-health relationships. The seven notifications relating to energy cover three listed health effects – ‘provides sustained energy’ (four notifications), ‘provides longer lasting energy’ (two notifications) and ‘increased time to exhaustion in physical activity’ (one notification). The five listed health effects in the pre-approved food-health relationships are:

- ‘contributes to normal energy metabolism’
- ‘contributes to the reduction of tiredness and fatigue’
- ‘necessary for normal energy release from food’
- ‘contributes energy for normal metabolism’
- ‘necessary for normal energy production’.

Two businesses that produce a similar range of products have each notified FSANZ of two similar food-health relationships, the health effects are ‘provides sustained energy’ and ‘provides longer lasting energy’. This allows one business to rapidly use the same health claim or a similar one in response to its use by a competitor.

While presumably minimising a source of possible advantage for a direct competitor, it does not preclude both businesses from achieving a market benefit from using the same health claim (for example, by displacing a different food from people’s dietary intake). While systematic literature reviews supporting the food-health relationship may have been independently developed by each business, it is also possible that a provider supplied an appropriate systematic literature review on a non-exclusive basis.

Interestingly, one notified food-health relationship is not for a health benefit arising from food, but for a negative effect – a so-called ‘negative health claim’. The health effect is ‘intestinal bloating and digestive pain or discomfort’, and the food or property of food stated to be responsible is ‘Dairy products containing approximately 50% A1 type beta-casein (with histidine at position 67 (His67) of the peptide chain) at levels within those recommended in the NHMRC Australian Dietary Guidelines’.

The business making the notification is The a2 Milk Company (Australia) Pty Ltd, dated 16 December 2015. The a2 Milk Company produces and markets milk and dairy products that specifically do not contain the A1 type beta-casein.

The purpose of notifying FSANZ of a food-health relationship for which a substantiation dossier including systematic literature review is held, is to use a general level health claim in advertising or on a food label. In this case, it is reasonable to assume that the company wishes to make a statement about the food-health relationship in advertising with the effect sought being greater interest in their own dairy products.



## An increase in the number of permitted health claims

Health claim regulation in Australia and New Zealand is restrictive, while increasing the range and number of permitted health claims. As stated above, health claims are not allowed to refer to the prevention, diagnosis, cure or alleviation of a disease, disorder or condition. They are not allowed to compare a food or food element to a good that is for therapeutic purposes, or likely to be taken for therapeutic purposes.

Furthermore, health claims cannot be made about the large percentage of foods that do not meet the Nutrient Profiling Scoring Criteria (NPSC). Nutrient profiling can help to identify healthier food. The NPSC was developed by FSANZ and takes into account the energy, saturated fat, sodium and sugar content of food along with certain ingredients such as fruit and vegetables, and in some instances, dietary fibre and protein. A recent survey of 23,596 packaged supermarket foods in Australia and New Zealand<sup>4</sup> identified that fewer than half (47 per cent in Australia, 41 per cent in New Zealand) were eligible to carry health claims.

The development of the NPSC as one eligibility requirement to make health claims and its access to businesses by online calculators may result in a shift in the available packaged food supply so that a higher percentage meets the NPSC, regardless of whether a general health claim is developed for use.

A significant investment is required to develop a systematic literature review and dossier to self-substantiate a general level health claim, and the food-health relationship identified may be relatively easily accessed by competitors (by similarly developing the required dossier).

An Australian study using April 2013 data of fruit and vegetable content claims in the categories of fruit snacks, soups and fruit and vegetable juices/fruit drinks in Sydney supermarkets found that foods carrying content claims were significantly higher in energy, saturated fats, sugars and sodium than fresh fruit and vegetables.<sup>5</sup> The percentage content of fruit and/or vegetables in products



with packaging carrying a content claim was significantly higher than in products without a content claim for snacks and soups, and the same for vegetable juices/fruit drinks.

The requirement for health claims to meet the qualifying NPSC seems likely to avoid the perverse outcome of health claims being used predominantly with foods of poorer nutrition quality. This is also important to avoid undermining consumer trust in health claims on packaging and in advertising, a critical link in their use of them.<sup>6</sup> Consumers are likely to be generally unaware of the level of regulation of health claims on food packages and advertising – increased awareness might be expected to raise the level of trust in health claims on food packaging and therefore increase the influence of claims on purchase decisions and consumption. This, in turn, would contribute to an aim of health claim regulation – that of providing consumers with a wider range of healthy food choices. 🍌

*CSIRO food and nutrition has a specialist group that undertakes services relevant to health claims. The group has a good understanding of the regulation in relation to nutrition, health and related claims in Australia and in other countries, experience and expertise in the conduct of systematic literature reviews, randomised clinical trials and epidemiological studies.*

*Dr Malcolm Riley and Dr Welma Stonehouse are research scientists in the Diet, Lifestyle and Health Substantiation Group of CSIRO Food and Nutrition.*

## References

1. Food Standards Australia and New Zealand (Sept 2013). Guidance on establishing food-health relationships for general level health claims (as described in Schedule 6 of Standard 1.2.7 - Health, Nutrition and Related Claims). (<http://www.foodstandards.gov.au/publications/Pages/Guidance-on-establishing-food-health-relationships-for-general-level-health-claims.aspx> - accessed March 2016)
2. Implementation Subcommittee for Food Regulation (IFSR) (Dec 2014). Getting your claims right. A guide to complying with the Health, Nutrition and Related Claims Standard of the Australia New Zealand Food Standards Code. (<http://www.foodstandards.gov.au/publications/Pages/gettingyourclaimsright.aspx> - accessed March 2016)
3. Williams P, Ghosh D (2008). Health claims and functional food. *Nutrition & Dietetics* 65 (Suppl 3);S89-S93.
4. Ni Murchu C, Brown R, Jiang Y, *et al.* (2015). Nutrient profile of 23 596 packaged supermarket foods and non-alcoholic beverages in Australia and New Zealand. *Public Health Nutrition* 19;401-408.
5. Wellard L, Hughes C, Tsang YW, *et al.* (2014). Investigating fruit and vegetables claims on Australian food packages. *Public Health Nutrition* 18; 2729-2735.
6. Zezlji I, (2012) The motivational and informational basis of attitudes towards foods with health claims.

# KEEPING YOUR FINGER ON THE PULSE

*2016 is the International Year of Pulses. GLNC takes a look at the place pulses hold in the diet for health and nutrition benefits and how food manufacturers can innovate using pulses.*

Words by *Michelle Broom*

In recognition of the 2016 United Nations International Year of Pulses, the Grains & Legumes Nutrition Council (GLNC) is holding ‘On the Pulse’, a one-day symposium in May at South Australian Health and Medical Research Institute in Adelaide. The symposium will bring together leading researchers to discuss the latest evidence in the health and nutrition benefits of pulses and recent developments in pulse food innovation.

Pulses, including beans, peas, lentils and lupins, have been recognised for centuries as a cornerstone of a healthy diet in many cultures. However, research is only starting to unlock the mechanisms to explain their role in a range of health-related conditions, from gut health to cognitive decline.

At this one-day symposium, leading researchers will examine the latest evidence on the health effects of pulses and highlight research gaps, introduce intriguing new innovations being used to incorporate pulses into the diet and identify opportunities for future work. They will also discuss the disparity between current intakes and recent global consensus on recommended intakes.

Keynote speaker Dr Lynne Cobiac, CSIRO science director and deputy flagship director, will speak about the potential role of pulses in providing nutrition security in a sustainable food supply for the future. She will explain how pulses can play a part in addressing a triple challenge – in ensuring food and nutritional security, producing food within a changing environment and producing healthy food that can help to mitigate the increasing chronic disease burden, while still addressing malnutrition.



## Health and nutrition

The morning session will focus on the latest research on the nutrition and health benefits of pulses and feature a number of leading researchers in the field.

Associate Professor Jonathan Hodgson from the University of Western Australia will discuss the evidence for the cardiometabolic benefits of pulses. Dr Hodgson will discuss the results of trials investigating the effect of diets incorporating lupin-enriched foods on appetite, energy intake and glycaemic responses as well as blood pressure and insulin sensitivity.

Population studies have shown positive associations between diets rich in pulses and cognitive function but direct evidence supporting a benefit of consuming pulses on cognitive function from randomised controlled trials has been lacking. Associate Professor Alison Coates from the University of South Australia will outline the results of a trial run in

collaboration with the University of Manitoba on the effect of regular pulse consumption on cognitive function, in older overweight/obese adults.

Different gut microbial community structures are now being associated with a range of disorders as diverse as inflammatory bowel diseases, depression and neurodegenerative disorders. With eight to 28 per cent of the dry weight of pulses being fibre, there is high potential for pulses to play an important role in shaping the gut microbiota and human health. Dr Trevor Lockett from CSIRO Food and Nutrition will describe how dietary fibre modifies the gut microbial populations and illustrate our current understanding of how these changes are translated into health benefits.

Dr Siem Siah from the Australian Export Grains Innovation Centre (AEGIC) will discuss the potential role of pulses in the prevention of cancer as she explains the emerging evidence in this area. She will outline the latest

understanding of the anti-cancer properties of pulses and the identified constituents, with a focus on her research on faba beans.

Dr Chris Marinangeli, director of nutrition, scientific and regulatory affairs from Pulse Canada, will be the second keynote speaker for the event. Bringing together health and food innovation in his presentation, Dr Marinangeli will introduce the new global consensus on recommendations for pulse consumption and compare these to current consumption around the world. He will also discuss how food innovation can assist to introduce pulses into new food formats to increase pulse consumption to meet recommendations.

### Food innovation

The afternoon session will focus on the latest Australian research on food innovation related to pulses and, as an example of the opportunities for innovation in pulses, the development of an intriguing new pulse-based food format will be explained.

Dr Li Hui Liu from the CSIRO Food and Nutrition Unit in Sydney will



Run by the Grains & Legumes Nutrition Council on behalf of the Australian National Committee, 'On the Pulse' is celebrating 2016 United Nations International Year of Pulses, and is proudly supported

by Blue Ribbon and Foods From the Earth. The symposium is sponsored by the Nutrition Society of Australia, and symposium partners are CSIRO, the International Life Sciences Institute Southeast Asia and AIFST.

**On the Pulse: the latest evidence of health benefits, innovations and intake recommendations for pulses.** Monday 2 May 2016, SAHMRI Institute, Adelaide. For more information and registration details, visit the AIFST online events calendar at [www.aifst.asn.au](http://www.aifst.asn.au).

discuss research into the fractionation of Australian sweet lupin into high quality protein and dietary fibre ingredients and the development of fractions for food applications for both Western and Asian food products.

Sensory expert Dr Anthony Saliba from Charles Sturt University will present the key drivers of consumption of pulses. He will also outline options for promoting pulse consumption based on innovations focused on taste and aroma. As an example of some of

the great innovations happening in Australia with pulses, Dr Ken Quail from AEGIC will present the work behind the one of the new pulse products from Foods From the Earth, nut-free pulse-based pastes.

*Michelle Broom is the general manager of the Grains & Legumes Nutrition Council. For more information on International Year of Pulses, visit [www.pulses.org](http://www.pulses.org) or find out about Australian activities at [www.glnc.org.au/iyp](http://www.glnc.org.au/iyp).*



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# 2016: THE BIG FIVE NUTRITION TRENDS

*Nutritional trends evolve rapidly and can be hard to keep up with when trying to meet consumer demands in the food industry. AIFST looks at some of the key drivers to expect for this year.*

Words by Sarah Hyland

Nutritional research and the resulting messaging – there is so much of it, and it can be overwhelming to read, process and then select which research is best to leverage for your product and brand.

AIFST has had a look at five key drivers that are predicted to underpin a broad range of categories, sectors and consumer types in 2016.

## Naturally functional – One trend to rule them all

A product that is naturally functional – which provides benefits that are intrinsic to that food or beverage – is the Holy Grail for consumer nutritional messaging. The naturally functional concept and communication is the main reason for the heady success enjoyed by almonds and almond-based products, blueberries and Greek yoghurt. Due to the regular and positive attention given to naturally functional foods by the media and blogosphere, very little in the way of overt health claims is required. Indeed, so potent is the idea of ‘naturally healthy’, many consumers will overlook the energy value of a food – dark chocolate, olive oils, red wine and nuts are good examples.

These are some of the emerging naturally functional foods and ingredients predicted to enjoy strong growth this year.

### 1 Seaweed: Stepping off the sushi train

While sushi is one of the fastest growing food markets in the west, seaweed is finding its place as a hero ingredient in snack foods in the US and, to a smaller degree, Europe. The uptake of seaweed in snacks has been piqued



by the growth in appeal and familiarity of another famous leafy green – kale.

Seaweed has an impressive resumé in terms of natural health. It is high in minerals (calcium and iodine) and antioxidants, a source of omega 3, protein, fibre, is low in fat and sodium, and is lactose and gluten-free. Further, it is low in energy and one of the only natural, non-animal sources of vitamin B12.

With its golden health halo, interesting organoleptic properties and exotic origins, the health conscious urban consumer has no problems buying into this exciting sensory and health experience at a premium price.

### 2 Coconut: What's not to like?

The global growth enjoyed by the coconut water market has been significant. Coconuts are perceived as healthy, natural, tasty and sustainable in the mind of the consumer.

Coconuts are rich in fibre, vitamins (C, E, B1, B3, B5 and B6) and minerals such as iron, magnesium and potassium. They are also high-energy density foods due to their high fat content. However, a coconut's saturated fats consist of medium chain fatty acids, such as lauric acids and myristic acids



– which are the ‘healthier’ ones among the saturated fatty acid group.

Extending itself past the water segment, coconut is cropping up in a large number of food products and categories, thereby extending its footprint and driving growth. The development of these other categories has again drawn on the coconut's intrinsic nutritional properties. For example, coconut milk and yoghurt is lactose-free, which means lactose-intolerant consumers (and those who are minimising dairy – a trend for a future article) can consume it without digestive discomfort.

Coconut flour can also decrease the Glycemic Index (GI) in baked foods, which can be important for diabetic consumers and those wishing to follow a low GI diet.

Coconut is recognised as a polarising flavour for Western palates – particularly in Australia – so it will be a technical challenge to develop products with this distinctive flavour profile that can achieve a solid presence.

### 3 Beans: More than ‘good for your heart’

Beans are a significant part of traditional diets in a number of



countries. They are now naturally functional due to the innovation and market growth surrounding their transformation from overnight soaker to convenient and tasty snack food.

Unless you have been living under a rock, you will know that 2016 is the International Year of Pulses (#LovePulses). So beans are enjoying some serious time in the spotlight with significant levels of marketing muscle. Media sources are spruiking beans and their respectable list of nutritional benefits. These include: high in soluble fibre and protein, antioxidants, vitamins and minerals (copper, folate, iron), low in fat and no cholesterol, low GI, and gluten-free.

#### 4 Sweetness: That sugar ingredient

Sugar has become the smoking gun of food and beverage, thanks to its suspected role in obesity, inflammation and disease in general. This presents somewhat of a challenge to the food and beverage industry, as consumers are rejecting sugar almost as much as they are rejecting high kilojoules (unless it is naturally functional).

Artificial sweeteners have been the main response to these barriers, but alternatives such as aspartame and phenylalanine are now undesirable for consumers. Stevia – the response to a market who wanted a natural sweetener – hasn't proven as popular as early backers had hoped.

While consumers say they want less sugar in their food and beverages, when they do go for sweetness, many prefer it to be from an ingredient that's natural and easy to understand. Enter authenticity – smaller quantities of sugar, in a form consumers can comprehend – honey, for example. No-one anytime soon will pretend

that sugar is good for you, but as a preferred sweetener, people understand that if you're going to sweeten with something, it might as well be sugar. However, this does not represent a platform for growth.

The real opportunities from the anti-sugar movement are in food segments such as savoury snacks of all types, healthier beverages that are 'naturally low in sugar' such as plant waters and new types of dairy products like savoury yoghurts and other naturally low / no sugar yoghurts.

In fact, there is some evidence that globally consumers are shifting away from sweetness and perhaps even lowering their sweetness threshold, as evidenced by the growth in savoury snacking, the decline in traditional categories such as fruits juices, carbonated soft drinks and diet sodas, and the trend towards water, fruit-flavoured water and even 'naturally sweet'.

#### 5 Free-from: Is there anything left to avoid?

Gluten-free has had all the attention in recent years and has been a significant growth trend. It is pretty much a hygiene factor now for nearly every category of food and beverage and even in personal care with a No Gluten claim on Palmer's Shea Formula.

So what's next? The key growth opportunity in the trend over the next three-to-five years is likely to be in dairy-free and lactose-free, which are next in the hierarchy of consumers' desired free-from messages.

Anything non-dairy is on a winning streak. The



strong growth of nut milks is evidence of a fast-growing dairy-free message.

But why dairy / lactose-free? Surely the number of diagnosed lactose intolerance / allergy consumers has not increased so significantly. No, it is not likely that they have. However, like the gluten-free movement, the reasoning is similarly explained by a widening to the much broader dairy intolerance.

Many naturopaths and personal trainers default to a dairy-free diet as a prescription for dealing with weight or digestive problems. Both gluten-free and dairy-free / lactose-free connect most strongly to digestive health – bloat, gassiness and just a sluggish feeling. Interestingly, when many people reduce (not necessarily avoid) dairy or lactose, they report feeling the benefit – and feeling the benefit is one of the most important reasons for anyone to buy a healthier product. As with gluten-free, the factor that is driving the lactose-free concept is that it delivers a benefit that the consumer can quickly see or feel.

This phenomenon is most compelling, and drives a respectable level of repeat purchase of the food or beverage delivering the feel better experience. 🍌

*Sarah Hyland is AIFST's general manager of industry services. If you are interested in learning more about trends in food and nutrition, please contact Sarah on 02 9394 8650 or at [sarah.hyland@aifst.com.au](mailto:sarah.hyland@aifst.com.au).*



**Sarah Hyland** will be presenting at the **49th Annual AIFST Convention, 26-28 June 2016**, on product innovation that capitalises on the latest trends and insights data to address the needs of today's consumer.



# FOOD SAFETY CULTURE – WHAT IS IT AND WHY DO YOU NEED IT?

*Food safety is a critical process that all employees should be across within a food business. So what does it take to implement a food safety culture in your organisation?*

Words by Dr Barbara Wilson

Safe Food Production Queensland (Safe Food) is Queensland's food regulator for the primary production sector. The statutory body started out with outcomes based on legislation in 2001, when it was all about Hazard Analysis and Critical Control Points (HACCP) and audits. However, these days the buzz phrase is 'food safety culture', and Safe Food has been working with this concept.

After more than 16 years' experience with food production in Queensland, Safe Food understands the importance of food safety culture as an essential element of success for food businesses.

Developing and measuring a food safety culture is only the beginning. Persistence and insight are required to make this culture a defining factor for both business and regulators.

## What is food safety culture?

Culture can be defined as the way of life or how things are done, especially the customs and beliefs of a particular group of people at a particular time. Therefore, a culture of food safety is built on a set of shared values that business owners and their staff follow to produce and provide safe and suitable food. Having a food safety program and HACCP in place does not necessarily mean that you have a food safety culture.

Culture is about business owners and their staff going above and beyond with the food safety behaviours that they routinely practise and demonstrate. This encompasses a commitment throughout the food supply chain, from harvest to retail.



## Creating and maintaining a food safety culture\*

There are no two food safety cultures that will be the same, as each business is inherently different.

However, they will share similar attributes and can achieve the same sustainable results from their investment in food safety.

Achieving food safety through a compliance model based on behaviours requires more than the traditional training, testing and inspection approach to managing risks. It requires an understanding of the impact of organisational culture on food safety outcomes.

Creating a culture of food safety might start by combining the best science with good business practices. However, businesses can demonstrate that they possess a solid food safety culture by using a variety of tools and supportive behaviours. These include:

- **Awareness** – of risks, legal and customer requirements and understanding why these are important to the business.
- **Provision** – providing appropriate equipment, programs, training, appropriate environment and access to self-assessment tools to prove that controls are in place and being used effectively.

- **Commitment** – to maintaining the food safety culture throughout the organisation, regardless of circumstances. For example, whether or not the boss, manager or Quality Assurance team are not present in the workplace, the same standards in food safety are maintained. Management respects employees and works with them to identify and fix any problems without blame.
- **Environment** – will influence how individuals within the organisation think about food safety, their attitude towards food safety, their willingness to openly discuss concerns and share differing opinions. An emphasis is placed on food safety and the risks involved when proper procedures aren't followed.
- **Characteristics** – accountability at all levels, sharing of knowledge and experiences, open communication and best practices. Management respects workforce and knows that food safety is more important than profits.

Through these behaviours, businesses can demonstrate to their staff and customers that they are aware of current food safety issues and that food safety is important within the organisation. Networking within their industry groups provides the opportunity to learn from others' success and mistakes.

Maintaining a food safety culture means all staff members:

- Know the risks associated with the products they are producing
- Know why managing the risks is important
- Effectively manage those risks in a demonstrable way
- Take pride in the performance of the business.

### Communicating a food safety culture

Organisations with a positive food safety culture are characterised by communications founded on mutual trust, as well as through shared perceptions of the importance of safety and confidence in the efficacy of preventative measures. Effective communication is key, and sharing information regularly is important to keep employees aware of food safety expectations. Senior management sets the expectations and ensures that all

staff are aware of the rewards of a good food safety culture.

### Measuring food safety culture

Once an organisation has identified and communicated its key behaviours and training has been conducted, the measuring of specific behaviours or activities that demonstrate the culture will assist improvement. Discussing outcomes from self-assessment keeps the culture alive.

### Advantages of a strong food safety culture

An organisation with a strong commitment to food safety culture demonstrates to its employees and customers that food safety is essential. Strong leadership identifies food safety goals, talks about results and provides focus to keep everyone on track to achieve success.

Within a strong food safety culture, employees are engaged and contribute to the food safety strategy. Their involvement helps with their understanding, and these employees then pass their knowledge onto others.

Additionally, outsiders of the organisation will notice that management listens to concerns and suggestions from staff, highlighting an overall organisational culture where management and staff are more pro-active than re-active.

### Disadvantages of not developing a food safety culture

There can arise a number of issues when there is not a strong culture of food safety, including confusion among employees with no clear expectations for food safety procedures.

If management are not implementing a food safety culture themselves, employees will not follow the food safety program as expected.

Furthermore, information may not be shared regularly between management and employees, and staff may then not voice concerns or suggestions for improvements in work practices.

Not implementing a food safety culture may also impact customer expectations, as customers will notice a lack of consistency and quality in products and services, and the business will suffer as a whole.

### Tips for creating a food safety culture

- Make sure you know what you want from a food safety culture – what are you prepared to commit to?
- Lead by example and embed the new culture in your actions, words and behaviour
- Define the new culture clearly and place reminders throughout the workplace of acceptable behaviour
- Constantly and consistently communicate through examples, training and day-to-day interactions with employees
- Ask questions to clarify and learn why activities are done a certain way
- Integrate a report on food safety culture into management and board meetings
- Involve employees in developing the culture and encourage feedback where appropriate
- Celebrate the culture
- Recognise and provide recognition for behaviours and achievements that support the culture
- All levels of staffing, from the cleaner to the CEO, will contribute to the overall business goals.

It is important to remember and expect that change takes time, although persist with the goals and have patience. The right culture and the right people are essential for the stability and growth of the food sector. 🍷

*\*Developed by Safe Food as part of the assessment program for the food businesses Safe Food accredits.*

*Dr Barbara Wilson is chief executive officer of Safe Food Production Queensland. Safe Food is a statutory body regulating the primary production and processing of meat, eggs, dairy and seafood in Queensland.*

### References

1. Yiannas, F. (2009). *Food safety culture: Creating a behaviour-based food safety management system.*

# FUELLING THE INNOVATION ECONOMY

*Innovation is at the heart of a vibrant and sustainable economy. So what does it take for a dairy company to be innovative in a crowded marketplace?*

Words by Peter Meek

While the Federal Government's National Innovation & Science Agenda (NISA) was a welcome and timely call to arms for the Australian economy, as a 30+ year veteran of food manufacturing and a food scientist, I must admit to having mixed feelings about the announcement.

Recognition from the Government that Australia must put innovation and science at the heart of its plan for a vibrant and sustainable economy excited the scientist in me. However, the focus on research and the distinct lack of a role for manufacturing in that innovation strategy, and in particular food manufacturing, had the food business leader in me lamenting the lost opportunity.

Australia's dairy industry makes a significant contribution to the Australian economy, in terms of both its financial contribution through export receipts and employment. Our environmental credentials, backed by a strong regulatory framework and high standards for traceability, quality assurance and supply chains, underpin an outstanding international reputation. But as other markets catch up on some of these more operational hygiene factors, it is our ability to innovate that will ensure we enjoy sustained success.

To achieve this, I believe Australia still needs to break away from the NISA notion that innovation is something that only happens while wearing a lab coat. Innovation is a much more holistic concept, and as much a priority in a boardroom and on the factory floor, as



*Peter Meek, managing director, Chobani Australia.*

it is in the laboratory. In my experience it is on the manufacturing floor, in the practicalities of production, where the vast majority of new ideas originate; ideas that can often be implemented quickly, save costs and increase productivity, and even improve product quality.

When considering innovation at a product level, it is important to remember that incremental, sustainable growth requires attracting more consumers to the segment and/or getting current consumers to consume more by identifying, then fulfilling, unmet needs and occasions.

Because we disrupted the yoghurt category, Chobani Yogurt is sometimes seen as an innovative product, but this is not technically true. Our 'innovative' straining process that ensures every pot

and pouch of Chobani is packed with protein is, in fact, more than 1,000 years old. Chobani's true innovation was to meet a new need for nutritious, delicious yoghurt products that were missing on shelves in the US, and then engage consumers through those products like no brand had done before.

We continue to innovate across all aspects of our business, including in our product portfolio by seeking out ways to engage consumers through new categories and occasions. Over my career, I have developed and launched hundreds of new products, and in that time perhaps the most valuable lesson in understanding craftsmanship, is that the road to success is not straight. On the contrary, it is an iterative process fuelled by equal measures of passion, experience and science.





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2005

Hamdi Ulukaya, a US-domiciled Turkish immigrant, borrows \$1 million to buy an 85-year-old yoghurt factory that was being closed down in New York. He comes up with a new recipe for an ancient product, and took on Fortune 500 giants in a highly saturated consumer category.



2011

Chobani acquires Bead Foods in Dandenong South and spreads its wings to Australia, a nation with some of the world's best milk, and people with a great understanding and passion for good food.



2012

Australia becomes the first market outside of the US to start manufacturing Chobani and launches nationally with an unprecedented 14 flavours, including Pineapple, Lemon, Blood Orange and Apple Cinnamon.



2014

Chobani Australia launches world-first 140g Chobani Greek Yogurt Pouches designed to fit in handbags, gym bags and lunch boxes as a spoon-free snack for people who are constantly on the go.



2015

Chobani Australia launches world-first 'breakfast on-the-go' Chobani Oats pouch range combining Chobani authentic strained yoghurt with steel-cut oats and fruit.



2016

Chobani Australia launches world-first Chobani Mezé Dip range redefining the dips category with single-serve dips suitable for everyday snacking, and not just for entertaining.



2016

Chobani Australia on track to make over 100 million serves of yoghurt this year, with one in five Australians enjoying Chobani on a regular basis.

## CHOBANI TIMELINE FOR SUCCESS

### Passion before profit

The goal is to think passionately like a 'small' entrepreneur, while striving to maintain the standards of a 'big' manufacturer. For example, Chobani is essentially a scaled-up craft process, and it is a process we are incredibly passionate about. The important distinction for Chobani is that the integrity of that craft has been maintained at incredible scale, which makes the product more difficult and expensive to make. But it is a process that will never be compromised, as Chobani believes strongly it is the right way to make yoghurt. Chobani believes each new product will make a difference, but are prepared to 'fail fast' and move on to the next project if it doesn't succeed.

### Knowledge through experience

Regardless of any theory, recipe or instruction manual, it is only through first-hand experience that we can understand how ingredients will actually respond to each other and new processes. There is simply no substitute for investing time throughout each developmental phase to achieve

an intimate understanding of every product nuance. From concept to launch, embrace the inevitable chaos of working through an iterative evaluation process. A self-confessed perfectionist, Hamdi Ulukaya completed 156 iterations over 12 months before Chobani was ready to go to market.

### Science with soul

The application of scientific method is critical to validate new processes that solve challenges throughout product development. However, as a scientific approach will almost always seek the most efficient path, it is an art in itself to ensure the correct balance with raw passion and hands-on experience.

For example, understanding the impact of subtle seasonal variations in milk is key to standardising product quality – a crucial consideration for any dairy product entrepreneur with commercial ambitions. In such an instance, arguably the most readily available 'science-based' solution might be to add stabilisers. For Chobani, this was an unacceptable compromise and completely contrary to the brand values, so a processing solution was

found that mitigated the seasonal variations, while ensuring the integrity of the natural product was maintained.

Manufacturing and, in particular, food and dairy manufacturing deserves far more recognition for its crucial role in Australia's innovation equation and as a key driver of our future prosperity. If our industry is to fulfil its potential and help fuel a vibrant manufacturing sector and innovation economy, we need researchers and a lot more food scientists, engineers and quality assurance officers.

To ensure we stay in front of the curve, we must be passionate about what we do and strive to innovate without fear of failure. While that means we won't be taking the easy road, we will be taking the right one.

*Peter Meek is managing director of Chobani Australia.*



**Peter Meek** will be presenting at the **49th Annual AIFST Convention, 26-28 June 2016**, on Driving Growth Through Innovation: Chobani Case Study.

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# MAKING A MARRIAGE WORK: SENSORY & MARKETING

*At the recent 10th Annual Australia & New Zealand Sensory & Consumer Science Symposium, the question was posed: can a marriage between sensory and marketing last?*

Words by Dr Gie Liem

Both sensory and marketing groups coexist in many medium to large food companies. The role of sensory departments vary from an integrated group fully embedded in new product development, to those who are mainly involved in quality assurance. The idea that sensory groups should only support, rather than lead, new product development by providing their services to marketing and product developers is becoming a highly challenged view.

During the 10th Annual Australia & New Zealand Sensory & Consumer Science Symposium in Sydney on 22-24 February, delegates and speakers ranging from sensory scientists, academics, market research agencies and sensory scientists challenged each other on how to facilitate the marriage between marketing and sensory, a relationship in which both partners are equal that will result in great products.

Several scientists highlighted the excellent sensory work that has been done in both New Zealand and Australia, presenting on the fundamental (e.g. the interaction of flavour and texture perception), as well as applied sensory research (e.g. the shift of ideal sweetness in the Australian market). The increasing importance of chefs in companies was emphasised by Adam Moore and David Landers, who both discussed in detail their work in food companies, as well as their insights for marketing and sensory science.

Marketing professor Hans van Trijp from Wageningen University in the Netherlands gave four interactive workshops about how marketing and sensory science should work together to identify and fulfil consumers' needs

with innovative products, which consumers were more likely to repeat purchase. Professor van Trijp has a strong knowledge of both sensory and marketing research, which he applied in an industry as well as academic setting, and identifies the importance of the marriage of the two. In staying with the analogy, sensory scientists need to stop thinking that they can only do the dishes – they should and can have a strong say in what food is being served.

A good relationship and collaboration starts with a mutual understanding of both partners, being able to identify common goals, and understanding each other's strengths and weaknesses. The audience at the conference was quick to point out differences between marketing and sensory science, justifying the difficulties they face when working with marketing – indeed, just like a marriage. Yet, there are also a lot of commonalities. In simple terms, marketing tries to understand the needs and values of their customers. Together with product developers, this understanding is then translated into a product for which the consumers want to trade money.

The paradigm of sensory scientists is not much different. Among other things, they aim to understand what consumers want, and how this can be delivered with flavour, taste and texture. However, both disciplines face the same problem – how can we measure what consumers want or perceive, and how can we act on what we measure? There is a growing understanding that explicitly asking what consumers want and think is important, although it often doesn't relate to actual food choice.

Implicit measures, such as eye tracking and reaction times, can further add to the understanding of the link with actual food choice. The development of better predictive measures of consumer needs or perceptions, and which product features determine choice, is beneficial for both marketing and sensory scientists. In addition, our sensory perception of products is significantly influenced by marketing messages. However, a mismatch between the promised, marketed sensory experience and the actual experience upon tasting and using the product can backfire because consumers find the combination of product promise and actual experience not plausible.

Do marketers come from Mars and sensory scientists from Venus and are the arguments in this marriage fed by a different view of the world? There is probably some validity hidden in this comparison. Sensory scientists may call marketers too quick, too opportunistic, whereas as Prof van Trijp explains, sensory scientists often worry about the precision of measurements, aiming for a high internal validity. Testing is often done with expert judges or lab participants, and fundamental sensory research model foods rather than real foods are used and the measurements include liking, intensity and perceived differences. This approach can precisely pinpoint a determinant of liking or perceived difference.

Market research is often more worried about the external validity and what will happen if an actual food product is in the marketplace. They use a representative sample of consumers, real foods and measure consumption and buying behaviour.



*Delegates at the recent 10th Annual Australia & New Zealand Sensory & Consumer Science Symposium at Sydney Olympic Park.*

The problem in the area of food choice is that internal validity comes at the expense of external validity and vice versa. Finding the balance between the two is key. For sure, a representative sample of consumers are more like 'real consumers' and market testing is closer to reality, but if we do not know exactly what causes a difference in buying behaviour because the test lacks

internal validity, the test is more prone to trial and error and is potentially wasting a lot of time and money. This emphasises that marketing and sensory need each other because jointly they will have a better handle on internal and external validity.

One of the main takings from the symposium was that there are clear opportunities for marketing and sensory

science to work more closely together.

The aim is clear – we want a loving marriage between marketing and sensory science. Both can bring benefits to product development and are able to be bigger than the sum of its parts. ☺

*Dr Gie Liem is a researcher at the Centre for Advanced Sensory Science and a senior lecturer at Deakin University.*

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# SENSORY AND CONSUMER RESEARCH UPDATE

*What's new? Recent highlights in sensory research.*

Words by Drs Russell Keast, Gie Liem, Megan Thornton and Sara Cicerale

## Umami to better balance emotional satisfaction from food

Monosodium glutamate, also known as sodium glutamate or MSG, is the sodium salt of glutamic-acid or glutamate, the most abundant naturally occurring non-essential amino-acids and can be found in many protein-rich food products such as meat, poultry, fish, eggs, dairy products and other plant sources. Glutamic-acid was discovered and isolated from wheat gluten and identified in the year 1866, by the German chemist Karl Heinrich Leopold Ritthausen.

Later in 1907, Japanese researcher Kikunae Ikeda identified the taste properties of glutamate as brown crystals left behind after the evaporation of a large amount of Kombu broth. A hard-to-describe but undeniable flavour, something he termed 'umami', with the taste of glutamate described as savoury, broth-like or meaty, similar to a chicken broth.

Research was completed in the USA to understand how consumers viewed an umami-rich low-sodium chicken noodle soup (vegetable bouillon, shredded chicken breast, carrot, celery, and rotini pasta). A total of five samples were prepared for testing, including a control sample, 0.1 per cent MSG sample, 0.5 per cent MSG sample, 0.1 per cent inosine monophosphate (IMP) sample, and 0.1 per cent IMP +0.3 per cent MSG sample. A questionnaire addressing overall acceptance, and perception of sensory, health, and emotional benefits of the samples was specifically designed for the study, and a total of 119 females participated, with all participants unaware that the soups contained MSG.

Results showed that all samples enhanced with either MSG, IMP or a



combination of IMP and MSG were liked slightly to moderately, and were significantly more liked than the control sample (no MSG/no IMP). Within the umami-enhanced samples, 0.1 per cent IMP + 0.3 per cent MSG and 0.5 per cent MSG was most liked overall, and significantly more liked than 0.1 per cent MSG and 0.1 per cent IMP. The test samples with MSG and IMP added were perceived as more savoury, more flavourful, and less bland while providing a more home-made, fresh, healthy, and wholesome taste than a control sample.

The authors (two of whom work for Ajinomoto, an MSG producer) conclude the use of umami compounds may help consumers better balance the physical and emotional satisfaction derived from food, without compromising the perception that one is engaging in a healthy behaviour.

Miyaki T *et al* (2016) Umami Increases Consumer Acceptability, and Perception of Sensory and Emotional Benefits without Compromising Health Benefit Perception. *Journal Food Science* 81(2) pages 483-493.

## The importance of knowing your Chinese consumer

The Chinese have a growing appetite for milk. Since 2006, Chinese milk consumption has increased by more than 40 per cent, which greatly benefits Australian milk producers. In particular those living in urban areas think of fresh (pasteurised) milk from Australia as liquid gold. With a price premium of AU\$8/litre, which is 44 times more expensive compared to Australia (when taken the lower average income in China into account), Australian fresh milk remains only in reach of the wealthy Chinese. Sixty per cent of ready-to-drink milk in China is UHT treated, yet fresh milk is surrounded by a positive halo of higher quality than UHT milk.

The Centre for Advanced Sensory Science (CASS) at Deakin University investigated if the positive halo surrounding fresh milk can actually lift the Chinese perceived taste of milk. In an experimental taste study, 48 Chinese

and 93 Australians tasted fresh and UHT milk with a fresh or a UHT label.

It was found when Chinese consumers were told milk was fresh, they liked it more than when the same milk was labelled as UHT milk. Interestingly, when Chinese consumers were not told what type of milk it was they tasted, they consistently preferred the taste of UHT more than the taste of fresh milk. Australian consumers consistently preferred fresh over the UHT milk.

Milk producers who sell milk to Chinese consumers may want to alter front of pack information to account for the negative expectations Chinese consumers have about UHT milk, yet may not want to change the taste of the UHT milk.

Liem DG, *et al.* (2016) Short communication: Influence of labeling on Australian and Chinese consumers' liking of milk with short (pasteurized) and long (UHT) shelf life. *Journal of Dairy Science* doi: 10.3168/jds.2015-10516 (free download)

### Bordeaux red wine aroma

The bouquet of a fine, old-aged wine is quite complex in aroma, the result of chemical reactions taking place in the bottle over time. These reactions often provide nuances which add to the overall bouquet, and may also define a particular wine or region.

Having recently investigated the sensory definition of the ageing bouquet of red Bordeaux wines, Picard and co-workers from the University of Bordeaux, France, turned their investigations to the chemical identity of aroma compounds responsible for such nuances and descriptors. In particular, a wine with a particular mint nuance was analysed using a multi-step process, including fractionation, sensory analysis and profiling, Gas Chromatography-Olfactometry (GC-O) and Gas Chromatography-Mass Spectrometry (GC-MS).

Wine extracts were first fractionated using reverse-phase liquid chromatography (RPLC). Sensory analysis of three red Bordeaux wines was completed by 13 wine professionals, whom after evaluating the intensity of seven aromatic descriptors (including liquorice, mint, spicy and truffle), analysed the wine fractions and provided aromatic descriptions of each. This information was used to select fractions which were most representative of the overall aroma of the wine and



to develop representative aromatic constitutions of each wine. A panel of 18 judges then analysed the reconstituted samples using a triangle test, and also provided sensory profiles of each sample, providing intensity ratings for the same seven aromatic descriptors.

Using GC-O, in which an aromatic sample may be chemically separated in order to be perceived and described by an assessor, as well as the sensory analysis profiles, an intense 'mint' zone was perceived in one of the wines, and also identified in particular fractions of the same wine. Using GC-MS to analyse the wine fractions and various mint-related essential oils, D,L-piperitone was identified as the culprit of this mint nuance.


Following this discovery, D,L-piperitone was then quantified in 15 red Bordeaux wines (121-1091 ng/L), and when related to the sensory analysis, was elicited as a molecular marker of the ageing bouquet of red Bordeaux wines.

Picard M, *et al.* (2016). Identification of Piperitone as an Aroma Compound Contributing to the Positive Mint Nuances Perceived in Aged Red Bordeaux Wines. *Journal of Agricultural and Food Chemistry* 64: 451-460

### The smell of loneliness

Research shows approximately one in four Australian older adults ( $\geq 60$  years) have olfactory (smell) loss and the risk for olfactory loss tends to rise with increased age. Olfactory loss has also been shown to affect the quality of life and impair function and activities of daily living. However, the association of olfactory decline with mental health problems is an area that requires more research.

A recent US study assessed the degree of olfactory functioning and its association with mental health. In this study, olfactory function was measured using the Brief Smell Identification Test (B-SIT). Symptoms of depression were measured by the Centre for Epidemiologic Studies Depression Scale. Loneliness was assessed by the de Jong-Gierveld Loneliness Scale. Cognition was measured by a group of 19 cognitive tests.

The findings demonstrated that a fair portion (~40 per cent) of the 1018 participants (mean age 80 years, 73 per cent women) included in the study had olfactory dysfunction. Supporting previous study findings, older participants had increased olfactory impairment, increased feelings of loneliness were associated with increased olfactory impairment. Symptoms of depression were also associated with increased olfactory impairment, although this was found among the male participants only. From this research, it is evident smell is a critical element for pleasurable social activities, and tackling depression and loneliness associated with olfactory loss may aid in the improvement in quality of life for those suffering from this sensory impairment. 

Sivam A *et al.* (2016) Olfactory Dysfunction in Older Adults is Associated with Feelings of Depression and Loneliness. *Chemical Senses* doi:10.1093/chemse/bjv088

*Drs Russell Keast, Gie Liem, Megan Thornton and Sara Cicerale are members of the Centre for Advanced Sensory Science (CASS) at Deakin University, Victoria.*



## QUESTIONS & ANSWERS

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### Dr Ben Lyons

*Following 18 years living and working in China, Dr Ben Lyons has recently stepped into the role of chief executive officer for the Toowoomba and Surat Basin Enterprise Pty Ltd (TSBE).*

*He has a PhD in Agricultural Economics (UQ) and is an alumni of the Australia-China Council Business Scholar programme.*

*Originally from south-western Queensland, Dr Lyons carries a diverse knowledge base and experience of the Chinese market, having worked in Nanjing, Xi'an, Beijing and Shanghai, and is fluent in Mandarin.*

*TSBE has recently transitioned from its traditional work in the food and agricultural space into the Food Leaders Australia (FLA) initiative.*



---

**Q** What is the overall aim of the Toowoomba and Surat Basin Enterprise Pty Ltd (TSBE) and Food Leaders Australia (FLA)?

**A** TSBE is a high-level regional economic development organisation that is membership based and is looking at providing an overall coherent environment for a regional strategy in economic development, driven by our members, who are businesses in the region.

FLA is an initiative of TSBE, focused on agribusiness and food production sectors. TSBE is primarily a regional brand, whereas FLA enables us to go broader than our region, as we have a catchment for infrastructure assets such as Brisbane West Wellcamp Airport, which extends from Bundaberg, QLD, through to Orange, NSW.

TSBE also happens to be located in Australia's leading agriculture region in terms of production and innovation, so we believe it befitted a national level brand name.

**Q** How will the FLA initiative help Australian food and agribusiness sectors take advantage of global opportunities?

**A** FLA and TSBE have a presence in Shanghai. We are one of the only regions in Australia to do so, if not the only region – normally that is done at a state and national level. We also have a partnership office in Beijing within the China Academy of Agricultural Sciences, which assists us in connecting with the market in China.

China is our largest and fastest growing market and it will also be our largest beef market within a couple of years. We link that capability by working at an enterprise level in terms of membership in strategies that look at investigating and activating company export development programs, working hand in hand with those companies.

**Q** How is Australia as a whole positioned to take advantage of direct export opportunities?

**A** Brand Australia in Asia, and perhaps wider, has never been stronger in terms of being a premium food brand and our ability to produce a good quantity of high quality food consistently.

This has come about through a lot of hard work in a lot of different product areas. Often it's easy to use beef as an example, but it is one of the best examples in how we have diversified and improved our product over the past 15 to 20 years via genetics and good marketing. I think wine is another great example of Australia excelling on the world stage, and in the future I think we can move into areas such as horticulture as well. At the end of the day, Australia has a capability that is only really limited by our own ambition.

**Q** What is your understanding of the Asian marketplace and the growing demand of Australian food products in Asia? How can businesses capitalise on these opportunities?

**A** Asia is a big place, so there are a few different viewpoints and angles when it comes to Asia. Countries like Japan and Korea are strong performers for us in the red meat and wine markets.

In saying that, I think China is our biggest opportunity. We have a lot of visibility in China, particularly in the offline and online retail space.

The online retail space for perishables is still a little challenging, although for long-shelf life products it is a lot easier. However, there is a really fierce desire for the very successful online shopping retail platforms to move into the perishables space. It would be interesting to also look at the food service market in a space like China and other parts of Asia more broadly because I think those are probably some of the easier wins for food and food production companies.



In terms of capitalising on the opportunities, I think businesses need to, in the words of John Wagner, get off your backside and get over there and have a go at it. Even though there is a lot of interest around China and other parts of Asia, it's not for everyone. You need to ask yourself the question of whether it's for your business or not, and to answer that question you really need to go over there and see what the market looks like.

There needs to be a level of foresight in order to reach these markets. Ask your business where it wants to be in five years' time, and if export is a part of that five-year vision, then you should start now.

**Q** What advice would you give to small food businesses that are looking to take advantage of overseas markets?

**A** As the world becomes smaller and smaller, businesses can leverage the greater transparency that technology provide, such as e-commerce platforms, and ultimately get to know an end consumer easier.

There has never been a time where you have such an abundance of information to make a much more informed decision about an export venture.

In terms of activating a small business and getting into market, there are still some challenges around payment terms, terms of trade and critical mass of supply. Those questions are perennial questions and they are always going to be there. However, I would say it has become in the past 10 to 15 years, and in particular in the past five years, increasingly easier for a small business to have a go in this market. It all comes down to ambition and vision.

**Q** Is there a large risk for food businesses that want to look into exporting opportunities?

**A** Only if you rush in, that would pose a large risk. Don't put the business at risk by putting all your eggs in one basket. It's a simple diversification strategy.

There are still risk issues with some countries like China, and there is still some work in terms of getting the trade issues right. You can eat up a lot of time and have no income if you don't do it smart, and utilise all the tools that are available to you.

However, as an Australian company, there are a lot of options available to you in terms of support and networking opportunities in these export markets that already exist and are willing to help. All you need to do is listen and be a little bit savvy about it. 🗣️



Dr Ben Lyons will be presenting at the 49th Annual AIFST Convention, 26-28 June 2016, on direct export opportunities.

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# NUTRITION WATCH

*What's new in nutrition? The following research has been recently published.*

Words by *Dr Ramon Hall*

## Wholegrains linked to lower risk of myocardial infarction

In a study led by the Danish Cancer Society Research Center, and involving other Danish collaborators, researchers investigated the association between wholegrain total intake, as well as intakes of different cereals (wheat, rye and oats), and incidence of myocardial infarction (Helnæs *et al.*, 2016).

This was a prospective study that included 54,871 Danish adults aged 50-64 years old, and included 2329 individuals who developed myocardial infarction during a 13.6-year follow-up period. Daily intakes of wholegrain products were determined by detailed information contained within self-administered food frequency questionnaires, and included specific information on total wholegrain intake, as well as wholegrain species (wheat, rye and oats). Associations between intakes of wholegrains and myocardial infarction were examined using Cox proportional hazards model, and adjusted for known confounding factors.

The results revealed that men and women with the highest quartile of total wholegrain intake had a lower risk of developing myocardial infarction than individuals with the lower quartile. Additionally, upon examination of specific cereal species, there were significant beneficial associations between increased consumption of rye and oat consumption and reduced myocardial infarction in men, but this was not observed for wheat. There were no significant associations observed for wholegrain species and myocardial infarction in women. Increased rye bread consumption (in men and women) and



increased oatmeal consumption (in men only) were associated with significant reductions in risk of myocardial infarction. There were no significant associations related to myocardial infarction related to consumption of wholegrain bread, crispbread and wheat.

The authors concluded that, "In this study, we provide support for the hypothesis that wholegrain intake is related to lower risk of myocardial infarction, and suggest that the cereals, rye and oats, might especially hold a beneficial effect."

As noted by the authors, this study reiterates findings from other prospective studies, suggesting that rye and oats may hold beneficial effects in relation to myocardial infarction, and is additionally supported by experimental evidence. We need to acknowledge that this study does not show causation, and that additional randomised controlled

trials are required to fully elucidate the cause and effect relationship between oats, rye and myocardial infarction.

These findings should be of interest to manufacturers of products containing wholegrains, particularly rye and oats.

Helnæs *et al.* (2016) Intake of wholegrains is associated with lower risk of myocardial infarction: the Danish Diet, Cancer and Health Cohort. *American Journal of Clinical Nutrition*, Published online ahead of print February 17, 2016 (doi: 10.3945/ajcn.115.124271).

## Dairy products may be helpful to prevent weight gain in women over 45 years

Researchers from Harvard University in Boston, USA, have undertaken a study to investigate how dairy product intakes are associated with weight change and risk of becoming overweight or obese in initially normal-weight women. (Rautiainen *et al.*, 2016). This prospective study involved 18,438 women aged  $\geq 45$

years from the Women's Health Study, who were free of cardiovascular disease, cancer and diabetes. The cohort included women who had an initial body mass index (BMI; in kg/m<sup>2</sup>) between 18.5 to 25 at baseline. Their dairy intake was determined using a validated 131-item food-frequency questionnaire. Participants self-reported body weight and obesity-related risk factors on baseline, and an annual follow-up questionnaire was undertaken with participants. During each follow-up, women were categorised as normal weight (BMI: 18.5 to <25), overweight (BMI: 25 to <30), or obese (BMI ≥30). The mean follow-up period was 11.2 years and overall 8238 women become overweight or obese.

Using multivariate analysis, the results revealed that there was a significant favourable trend (*P*-trend = 0.003) in body weight gain across the five quintiles of dairy food intake, with lower weight gain corresponding with regular dairy food intake. Interestingly, there was a significant association (*P*-trend = 0.004) for lower weight gain with regular fat dairy products, but this was not observed with low fat dairy products. After adjustment for known confounding variables, a lower risk of becoming overweight or obese was found in the highest quintile of regular fat dairy product intake. Additionally, it was found that the use of dietary or supplemental calcium or vitamin D was not associated with a risk of becoming overweight or obese.

The authors concluded, "Greater consumption of total dairy products may be of importance in the prevention of weight gain in middle-aged and elderly women who are initially normal weight."

Interestingly, these beneficial findings for regular fat dairy products in relation to weight management may suggest that the lipid components in dairy (in the context of whole foods) may play an important signalling role to potentially control excess food intake of non-core foods, as well as the known disparity between Atwater calculated values for these products and their true metabolisable nutritional value (after allowing for natural gastrointestinal losses).

This study should be of interest to dairy manufacturers marketing regular fat dairy products, as well as health practitioners.

Rautiainen *et al.*, (2016) Dairy consumption in association with weight change and risk of becoming overweight or obese in middle-aged and older women: a prospective cohort study. *American Journal of Clinical Nutrition*, Published online ahead of print February 24, 2016 (doi: 10.3945/ajcn.115.118406).

### Are insects healthier than meats?

In a study conducted at Rikkyo University, Tokyo, Japan, in collaboration with the University of Oxford, UK, researchers investigated whether insects are nutritionally preferable to meat, using two evaluation tools that are designed to combat over and under nutrition (Payne *et al.*, 2016).

The researchers selected 183 data lines of publicly available data on the nutrient composition of raw cuts and offal of three commonly consumed meats (beef, pork and chicken), and six commercially available insect species using energy (kJ) and

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12 known nutrients, including protein, fat, saturated fat, sodium, calcium, iron, iodine, vitamin C, thiamine, vitamin A, riboflavin and niacin. They applied two nutrient profiling models to this data: The Ofcom model, which is used in the UK, and the Nutrient Value Score, which has been used in East Africa. They compared the median nutrient profile scores of different insect species and meat types using non-parametric tests and applied adjustments to assess for statistical significance in differences.

The results revealed that insect nutritional composition showed high diversity between species, with the Ofcom nutrient model showing no insects were significantly 'healthier' than meat products. The Nutrient Value Score model revealed that crickets, palm weevil larvae and mealworm had a significantly healthier score than beef ( $P < 0.001$ ), as well as chicken ( $P < 0.001$ ). Neither model indicated that insects were statistically less healthy than meat.

The authors concluded that, "Insect nutritional composition is highly diverse in comparison with commonly consumed meats. The food category 'insects' contains some foods that could potentially exacerbate diet-related public health problems related to over nutrition, but may be effective in combating under-nutrition."

As with all nutrient-based nutritional modelling, caution does need to be taken in interpreting these results, as whole foods and whole diets are not appropriately determined by 12 nutrients and energy contributions. These models do not take into consideration the intricacies of human nutrition on factors such as protein quality, bioavailability of nutrients, or the complexities of other known important nutrients or other less studied components. That said, these results are quite interesting and support the initiatives of Food and Agriculture Organization around 'Edible Insects, Future Prospects for Food and Feed Security'.

This study should be of interest to manufacturers of insect foods for human nutrition, although in Australia these are

not commonplace at this point in time.

Payne *et al.*, (2016), Are edible insects more or less 'healthy' than commonly consumed meats? A comparison using two nutrient profiling models developed to combat over- and undernutrition. *European Journal of Clinical Nutrition*, 70; 285-291, (doi: 10.1038/ejcn.2015.149).

### Importance of dietary fat in relation to reproductive hormones and ovulation

Researchers from the National Institute of Child Health and Human Development, Bethesda, USA, have undertaken an exploratory study to evaluate associations between total and specific types of dietary fat intake and hormone concentrations, and also the risk of sporadic anovulation, which is the menstrual cycle during which the ovaries do not release an oocyte. This study was initiated as emerging evidence was suggestive there were potential links between some dietary fatty acids and improved fertility, as specific fatty acids may affect prostaglandin synthesis and steroidogenesis.

This study involved a cohort of 259 regularly menstruating women in the Bio-Cycle Study. During the study, reproductive hormones were measured up to eight times per menstrual cycle for up to two cycles, with visits scheduled with the use of fertility monitors. Dietary intake was assessed with up to four 24-hour recalls per menstrual cycle. Associations between dietary fatty acids and both reproductive hormone concentrations and ovulatory status were determined using linear mixed models and generalised linear models. All models were adjusted for total energy intake, age, body mass index, and race.

The study revealed that relative to the lowest levels of percentage of energy from total fat, the highest tertile of total fat intake was associated with significantly increased total and free testosterone concentrations. In particular, the percentage of energy from polyunsaturated fatty acids (PUFAs) in the highest tertile was associated with significant increases in total and free testosterone. However, the PUFA



docosapentaenoic acid (22:5n-3) was not significantly associated with testosterone concentrations, but was significantly associated with increased progesterone and a reduced risk of anovulation. Additionally, fat intake was not found to be associated with other reproductive hormone concentrations.

The authors concluded, "These results indicate that total fat intake, and PUFA intake in particular, is associated with very small increases in testosterone concentrations in healthy women and that increased docosapentaenoic acid was associated with a lower risk of anovulation."

This study should be of interest to manufacturers of products aimed at women's and reproductive health, as well as health practitioners. <sup>13</sup>

Mumford *et al.*, (2016) "Dietary fat intake and reproductive hormone concentrations and ovulation in regularly menstruating women" *American Journal of Clinical Nutrition*, 103, 868-877, (doi: 10.3945/ajcn.115.119321).

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**AUSTRALIA & NEW ZEALAND 2016**

**April 8** Food Nutrition & Analytical Chemistry Group Industry. Werribee, VIC. [www.raci.org.au/events/event/visit-to-dairy-innovation-australia-limited-dial](http://www.raci.org.au/events/event/visit-to-dairy-innovation-australia-limited-dial)

**April 8-10** The Food Show. Horncastle Arena. Christchurch, New Zealand. [www.foodshow.co.nz](http://www.foodshow.co.nz)

**April 12** AIFST & Food Stream Retort supervisor's (Thermal Processing) Course. Shepparton, VIC. [www.aifst.asn.au](http://www.aifst.asn.au)

**April 13** AIFST CPD. Construct a compliant food label – for the Australian food industry workshop. Melbourne, VIC. [www.aifst.asn.au](http://www.aifst.asn.au)

**April 19** AIFST & AFGC Food Regulatory Updates Breakfast & CPD Food Recalls Workshop. Perth, WA. [www.aifst.asn.au](http://www.aifst.asn.au)

**April 20** AIFST & AFGC Food Regulatory Updates Breakfast & CPD Food Recalls Workshop. Adelaide, SA. [www.aifst.asn.au](http://www.aifst.asn.au)

**26 April** AIFST CPD. Food Ingredients Series Food Colours. Melbourne, VIC. [www.aifst.asn.au](http://www.aifst.asn.au)

**April 30-May 1 6th International Conference on the Science of Nutrition in Medicine and Healthcare.** Sofitel Sydney Wentworth, Sydney, NSW. [www.nutritionmedicine.org.au](http://www.nutritionmedicine.org.au)

**May 2** GLNC CSIRO ILSI On the Pulse, Adelaide, SA. [www.aifst.asn.au](http://www.aifst.asn.au)

**May 19** AIFST AGM. AIFST Office, North Sydney. For more information, visit [www.aifst.asn.au](http://www.aifst.asn.au)

**May 22-24** Foodservice Australia 2016. The Royal Hall of Industries, Sydney, NSW. [www.foodserviceaustralia.com.au](http://www.foodserviceaustralia.com.au)

**June 15-16** 2016 ATSE National Technology Challenges Dialogue – Agribusiness 2030. The Sofitel Wentworth, Sydney. [www.atse.org.au/agribusiness2030](http://www.atse.org.au/agribusiness2030)

**June 27-28** 49th Annual AIFST Convention. Brisbane Convention & Exhibition Centre, Brisbane, Qld. [www.aifst.asn.au](http://www.aifst.asn.au). Co-located with Foodtech Queensland. [www.foodtechqld.com.au](http://www.foodtechqld.com.au)

**September 14-16** 66th Australasian Grain Science Conference. Quality Hotel Powerhouse, Tamworth, NSW. [www.ausgrainscience.org.au](http://www.ausgrainscience.org.au)

**November 29-December 2** Nutrition Society of Australia Annual Scientific Meeting. Crown Melbourne, Melbourne, VIC. [www.nsameeting.asn.au](http://www.nsameeting.asn.au)

**INTERNATIONAL 2016**

**May 31-June 2** 2nd International Conference on Food Properties. Bangkok, Thailand. [www.icfp-food.org](http://www.icfp-food.org)

**July 16-19** Institute of Food Technologists Annual Meeting. Chicago, Illinois, USA. [www.ift.org](http://www.ift.org)

**September 5-7** Global Food Security and Sustainability Conference. Beijing, China. [foodsecurity.conferenceseries.com](http://foodsecurity.conferenceseries.com)

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## SHELLING OUT THE FUTURE OF THE OYSTER INDUSTRY

*While many have heard of the Pacific or the Sydney rock oyster, a native oyster may be the answer to a deadly disease threatening oyster farms in Australia.*

Although it may sound foreign, the Angasi oyster is a native Australian oyster, otherwise known as the southern mud oyster or flat oyster.

Often sought by chefs for cooking due to their full-flavour and texture, the humble Angasi oyster is resistant to the Pacific Oyster Mortality Syndrome (POMS) – a disease that is currently plaguing the shores of Tasmania and New South Wales.

Once plentiful around southern Australian shores from New South Wales to Western Australia's Fremantle, including Tasmania, the Angasi oyster was overfished and now very few natural reefs remain. Today, Angasi oyster production represents a much smaller proportion of the industry, as they are difficult to come across and expensive for oyster farmers to produce, and for consumers to buy.

However, as the Angasi oyster is resistant to the disease that is currently wiping out Pacific oysters in Tasmania, they could provide growers with future options.

POMS is a disease that exclusively affects Pacific oysters, currently the most commonly grown oyster in Australia. The presence of POMS in Tasmania was first discovered in February 2016, with high levels of oyster mortality reported.

The Tasmanian Government's Department of Primary Industries, Parks, Water and Environment (DPIPWE) has declared a Control Area for the whole of Tasmania under

the Animal Health Act 1995. The Control Area restricts the movement of oysters and animal materials, as well as conveyances used in the production of oysters.


There is no clear indication as to when the POMS virus was introduced into Tasmania, with surveillance testing in March 2015 not finding any evidence of POMS virus in the state.

To date, around 40 employees have lost their jobs as a result of the POMS outbreak in Tasmania, an event the Primary Industries Minister Jeremy Rockcliff has labelled as devastating.

"I have spoken and written to the Federal Assistant Minister about a long-term recovery plan involving assistance from the Federal Government, and DPIPWE continues to work with their federal counterparts.

"But first, we must gain a better understanding of the virus and work with the industry to determine its priorities," said Mr Rockcliff.

"We are committed to supporting the industry and are confident it will have a strong future in Tasmania."

Resistant to the POMS disease, the Angasi oyster could be a potential safeguard against the disease, providing growers with potential options to safeguard the industry. 

*Image provided courtesy of  
Australia's Oyster Coast.*



A photograph of a woman with long dark hair, wearing a green and white striped tank top, standing in a grocery store aisle. She is holding a pink rectangular product and looking at it. The shelves are filled with various food items, and the background is slightly blurred. The image is overlaid with a blue gradient at the bottom.

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