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MAY/JUNE 2017

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To book your advertising bundle contact Rebecca Freeman on 0414 844 425 or email rebecca.freeman@aifst.com.au to discuss your requirements. We can work with you to tailor an advertising package to fit your needs and budget.

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Published by The Australian Institute of Food Science and Technology Limited.

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SUBSCRIPTION RATES

Australia \$110; overseas (airmail) \$175; single copies \$11; overseas \$17.50.

food australia is the official magazine of The Australian Institute of Food Science and Technology Limited (AIFST). Statements and opinions presented in the publication do not necessarily reflect the policies of AIFST nor does AIFST accept responsibility for the accuracy of such statement and opinion.

Editorial contributions are invited. Guidelines are available at <https://www.aifst.asn.au>.

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FOOD FOR THOUGHT

The historic **50th Anniversary AIFST Convention** and **50th Anniversary Gala Dinner** will be held in Sydney from 17-18 July 2017 at the International Convention Centre, Sydney. The premier event on the 2017 food industry calendar is now taking **EARLY BIRD registrations** until 22 May 2017. AIFST members receive a further discounted rate.

Focusing on the **Future of Food**, the Convention will bring together the latest and cutting edge in science, technology and innovation, which will drive our food industry for the next 50 years. Co-located with **foodpro**, this event is a major highlight in 2017 bringing together the largest grouping of food industry professionals in Australia. See pages 24-27 for more information or visit the AIFST website.

A key component of any 50th Anniversary milestone is the opportunity to honour the past while ensuring we look to the future. I hope you are enjoying the Institute memories shared in this and recent *food australia* issues, providing a glimpse into the careers and lives of some of the individuals who have shaped the Institute over the course of the past 50 years. In this issue, we speak with Alan Mortimer AM, AIFST president from 1991 to 1993, who reflects on his food industry career and contribution to AIFST on pages 6-8.

We have jam-packed months ahead for members with plenty of opportunities to not only network with each other, but engage in a new career webinar series. We often hear from members that they are seeking support in building their skill and capability related to personal development and growth. See page 12 for further information and visit the AIFST website for an up-to-date listing of activities – <https://www.aifst.asn.au>.

I look forward to welcoming you to the historic AIFST 50th Anniversary Convention in July! 🇦🇺

GEORGIE ALEY

AIFST CEO





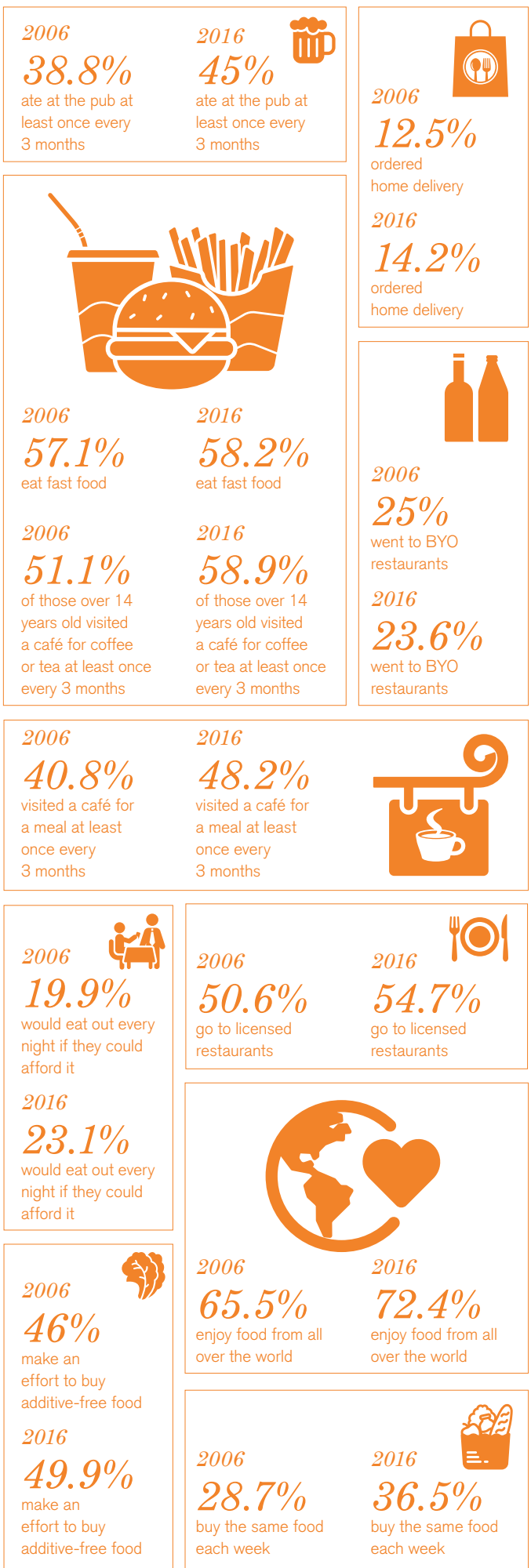
How our café, restaurant, fast food and home delivery habits have changed

Australians' dining and dietary habits have changed markedly over the past decade according to recent findings from Roy Morgan Research.

We are now more likely to go to a café for coffee or tea than eat out at a fast-food place – and having a pub meal is now vastly more popular than getting pizza home-delivered! Health-oriented, low-fat diets are falling out of favour, fewer people are preoccupied with their cholesterol levels, and more of us are opting to buy the same food week in, week out. A preference for taste over ingredients and a tendency to snack throughout the day are also among the last decade's key food-related trends.

Norman Morris, industry communications director, Roy Morgan Research, says: "The fact that more Australians are dining out at eateries of various descriptions than they were 10 years ago speaks volumes about our ongoing obsession with food and gourmet culture. With TV cooking shows and celebrity chefs as popular as ever, it's almost a matter of pride for many people to visit the latest restaurant or café before their friends: home-delivered pizza just won't cut it anymore!"

Let's look at what a difference a decade makes. 





AIFST 50 YEARS 1988 to 1999: THE

A National Office for AIFST

When the Council of Australian Food Technology Association (CAFTA) ceased national activities in mid-1995 following the acquisition of *food australia*, the then AIFST Council undertook a major reorganisation of the Institute. With Ken Buckle at the helm as AIFST president (1995-1997), this exciting time included developing a strategic business plan, undertaking a major survey of members and establishing a national office in North Sydney with the relocation of the duties of the executive secretary in 1997, a role held by Christine Harfield from July 1992 until 31 January 1997. The new national office provided substantial support to the organisation of the 10th IUFoST World Congress of Food Science and Technology in Sydney in October 1999, the first time the World Congress was held in the Southern Hemisphere.



YOUNG CONSOLIDATION YEARS

AIFST talks to Alan Mortimer AM, AIFST president 1991-1993.

What have been your main roles in the Australian food industry?

Upon completing my degree in microbiology at The University of Queensland, I spent five years at the Queensland brewing company XXXX. After travelling overland through Asia and Europe, I was offered the role of chief microbiologist at Cadbury Schweppes, Food Division Europe in 1973. I later worked in the UK Drinks Division before returning to Australia in an operational role at the Schweppes Tullamarine beverage factory. A nationwide outbreak of salmonellosis in dairy products in 1977 saw me seconded to the confectionery division to establish microbiological testing regimes at the Ringwood and Clarendon factories, and later to more senior technical roles. In 1982, I was head-hunted to become the technical manager of the Victorian Dairy Industry Authority – a position that was partially regulatory, but also involved the development of a range of value-added dairy products such as Big M, Rev, and Skinny Milk. I left to establish my own company.

For nearly 30 years now I have operated the Australian Blending Company, which specialises in flavoured milk premixes, sport nutrition supplements, weight management shakes, drinking chocolates and coffee blends, ice cream and frozen yoghurt premixes, bakery and confectionery applications, and instant soups and sauces. We are currently asking ourselves: What should a company of 29 years be doing to be prepared for the challenges of the 2020s? This involves planning for a new factory and ensuring that we are able to comply into the future with the strict and ever-changing regulations relating to food safety and allergen control.

What are some of your memories of AIFST over the years?

I first became involved with the AIFST through the AIFST Food Microbiology Group and joined as a member in 1979. At that time, groups such as Food Microbiology, Nutrition and Cook Chill were a very important part of the Institute's activities. The NSW and Southern Branches independently formed Food Microbiology Groups in the 1970s and I became chair of the Southern Branch Microbiology Group in 1981 following the retirement of one of the pioneers of food microbiology in Australia, Margaret Dick. I later became Southern Branch chairman and initiated its split into the Victorian and Tasmanian Branches.

I have attended all the AIFST Conventions since becoming an AIFST member except for 2002 when I was president-elect of the International Union of Food Science and Technology (IUFoST) and was required to attend a meeting in Kenya. I was Convention chair of the 20th "Mungabareena" Convention in 1987 in Albury. It was a really a fantastic occasion with a happy hour every evening in the Trade Exhibition with copious quantities of local wine and cheeses. We actually started on a Saturday night but the significant networking opportunities far outweighed the weekend work! I was the Institute's president when we held the 25th (Jubilee) Anniversary back in Shepparton, AIFST's birthplace. This was the last convention held in a rural location.

The AIFST was one of the 20 founding members of IUFoST when it was formed in 1970 and we successfully acquired hosting rights for the 10th World Congress held at the Sydney Convention Centre in October in 1999. This was the first congress held in the Southern Hemisphere ▶▶

and attracted more than 3000 people from 65 countries. It was great publicity for Australia, for our food industry, and for food science in our country!

How has the AIFST helped your career?

The AIFST helped establish a whole spectrum of contacts for me within the food industry – suppliers of ingredients and services, potential customers and networking opportunities with research organisations, tertiary institutions and government officials in regulatory and import/export agencies. I believe who you know can be more important than what you know, so it was a great learning experience to socialise with like-minded people.

What have been your career highlights?

Four highlights come to mind:

- ◆ Being appointed a Member in the General Division of the Order of Australia (AM). The citation reads: "For services to food science and technology, to professional development and networking at the national and international level, to food safety standards, and as a mentor".
- ◆ Being elected the president of IUFOST for the term 2003-2006, the only person from the Southern Hemisphere to have held this position.
- ◆ Chairing the Organising Committee of the 10th World Congress of Food Science and Technology in Sydney in 1999.
- ◆ Celebrating the 25th anniversary of the company

I founded, Australian Blending Company Pty Ltd in 2013, deciding not to retire and to target (potentially) another 25 years!

What about the next generations of food industry professionals?

Over the past 30 years I have mentored more than 100 work-experience students at my company. My main concern is that most tertiary courses are currently not presenting job-ready students into the workforce. I believe advisory boards need to change course structures so students have a compulsory interface with the industry and industry mentors.

What do you see as the current challenges for the food industry?

There is an enormous amount of fiction and misinformation about food "out there" and it is too easy for unqualified people to go on social media and set themselves up as "experts". The average consumer is confused about what is the truth.

There is a vacuum that needs filling by a reliable advocacy. The AIFST as a member-based organisation could be that independent knowledge source. This role is carried out by organisations such as ours in other countries, for example the Institute of Food Technologists (IFT) in the USA and the Institute of Food Science & Technology (IFST) in the UK. 🇦🇺



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- › DAFF Analysis
- › Sugar Profiles
- › Meat Speciation
- › Meat Content



Reflections on My Life as a Food Technologist



Words by **Claus Jehne, AIFST Life Fellow**

After gaining a Commonwealth scholarship and a Unilever food technology scholarship, I enrolled at the University of NSW (UNSW) in 1961 to study food technology in the School of Chemical Engineering. During the first two years, we studied basic science subjects but in later years we attended lectures and practical classes in all aspects of food science and technology conducted by Prof F H Reuter, Prof Ron Edwards, Dr Peter Linklater, Roy Day and others.

I was joined by three other students in my year: Ken Buckle, who in 1994 became professor and head of food technology at UNSW; Beth Crouch, who went to work for Weston Milling; and John Schwab, who went to Edgell. ▶▶

In 1963-64, we formed the Food Technology Students Association and I became the first president followed by Michael Sharp. Our year group attended the 1964 convention of the southern and northern sections of the IFT (US Institute of Food Technologists) in Canberra.



At the beginning of 1965, I travelled to Japan for about 10 weeks as part of a 53-member Australian Overseas Student Travel Scheme (AOSTS) visit sponsored by the National Union of Australian University Students (NUAUS). With the help of the IFT Japan section (Prof. Fujimaki, Tokyo University), I studied the food industry there, especially companies involved in food fermentation and enzyme processes, and visited a number of food research institutes.

In April 1965, I joined Unilever, Streets Ice Cream, as a technical officer. I soon took charge of the laboratory and developed the factory's quality assurance program. There I met Peter Lancaster (later of Food Spectrum and an AIFST past president). During 1967-68, I was the product development manager overseeing a busy program of creating new products in four market segments: children; young adults; dessert products for homemakers; and bulk ice cream. There were about 26 new product launches every year. It took us about one year to develop the Streets Blue Ribbon Classic Vanilla formula which, as it says on the label and I am proud to say, "Has been enjoyed by generations of Australians since 1968". During these years, I was a student member of the northern section of the IFT. I became an inaugural graduate member of AIFST and I served on AIFST's NSW branch committee in 1968.

That year, I went overseas, first to Japan and then to London. Unilever found a job for me as a process development engineer at the ice cream company Langnese in Hamburg, Germany. I also visited and worked in some of Unilever's other ice cream and frozen food factories in Europe.

Returning to Australia in early 1972, I accepted the job as technical manager at Red Tulip Chocolate Group (then owned by Beatrice Foods) in Melbourne, where I was in charge of product development, quality assurance and group technical matters. In 1974 I accepted a position

as lecturer in food science and microbiology at the Larnook Teachers' College. During my time in Melbourne I was an active member of the AIFST southern branch.

In 1975 I moved to Brisbane to take up a lectureship in food science and associated subjects at the Kelvin Grove Teachers' College. Shortly after arriving in Brisbane, I was approached by Kevin Harper (head of the Food Technology Department at Gatton Agricultural College, which is now part of Queensland University) to join the AIFST Queensland branch committee.

For the next 25 years I was involved in AIFST affairs in various capacities, including local branch president for two terms, an organising committee member of numerous AIFST conventions, and national councillor and treasurer during Kevin Harper's presidency. I usually attended AIFST conventions, including our offshore convention in Singapore in 1982 and the IUFoST congress in Kyoto, Japan in 1984. In February 1985, I was elected an AIFST Fellow.



Over those years there was also numerous changes in my working environment. Kelvin Grove Teachers' College became the Brisbane College of Advanced Education in 1982 and then amalgamated with the Queensland University of Technology (QUT) in 1990, resulting in many course rationalisations and changes. I joined the School of Public Health and continued to lecture in food science and technology, food safety, and nutrition.

At the end the '90s, I spent a year in Japan as a visiting professor at Sonoda Women's University. In November 2001, I retired from QUT but continued to teach part-time and consult on food studies subjects for the Hong Kong Institute of Education. In 2003, Peter Lancaster invited me to take charge of the technical program organising committee for the 2004 AIFST convention in Brisbane. Since then, I have maintained a keen interest in food technology and I am still presenting lectures and courses at the Brisbane U3A (University of the Third Age) to enthusiastic student groups.

When I look back, I could say that I had two careers – one as a working food technologist

and academic, and one as a long-serving and active member of our Institute in many roles.

Both careers were mutually supportive; they enhanced each other and made my professional life so rewarding. The Institute was very much in touch with current food industry development – technologically, scientifically, legally, nutritionally – and this informed me in what to present to students and in my role as a community educator. It was a very beneficial and synergistic relationship that enriched my life.

I am greatly indebted to my lecturers at UNSW and my mentors, many of whom were pioneers of food science and technology in Australia. I am further indebted to my colleagues at food industry companies, research organisations and universities. I must also mention the many students who made my career as a food science and technology educator so satisfying and rewarding. Last, but not least, as a retired Life Fellow, I thank AIFST and its entire staff, past and present, for their great support over the past 50 years. 🍌



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AIFST News

AIFST Member Events

2017 AIFST Annual General Meeting

Tuesday, 18 July 2017

The 2017 AIFST AGM will be held in the Pyrmont Theatre at the International Convention Centre, Sydney from 8.30-9.30am on Tuesday, 18 July 2017. AIFST has been granted an extension by ASIC to report to members during the AIFST 50th Anniversary Convention. This will allow more of our members to participate in the meeting. To register your attendance for the AGM, visit the AIFST website <https://aifst.asn.au>. Meeting papers will be sent directly to members closer to the meeting.

Victorian Members Trivia Evening

Thursday, 25 May 2017

AIFST will once again host the Victorian Members Trivia Evening on Thursday, 25 May 2017. The Trivia Evening has become a favourite and popular function on the Victorian food industry's calendar of events. All AIFST members are invited to attend the evening to take on reigning champions. Form a team or come along and join one on the evening. To register for the event please visit the AIFST website <https://aifst.asn.au>.

GELITA Queensland Factory Tour

AIFST members only event

Thursday, 24 August 2017

Would you like to visit the only factory in Australia making gelatine? Book your place today for this unique opportunity to visit GELITA – gelatine, collagen and collagen peptide experts – Queensland factory, located a one-hour drive from Brisbane CBD. GELITA are hosting a BBQ lunch for AIFST tour attendees that will be followed by an information session and tour of the factory. The Australian plant of the GELITA Group manufactures beef gelatine from fresh, hairy hide that is supplied by abattoirs up to 700 kilometres away. All the gelatine is sold as edible gelatine, some 60 per cent being supplied to the confectionery industry, the remainder being used in jelly crystals and dairy applications. To register for the event please visit the AIFST website <https://aifst.asn.au>. Places are limited.

AIFST Career Webinar Series

On the last Wednesday of each month, AIFST will be hosting a series of career development webinars for students, graduates, those looking for a new opportunity or for members just wanting to brush up on different skills. These "Lunch and Learn" sessions delivered online will enable AIFST members to take part without needing to leave their desks. To see what topic will be delivered and to register please visit the AIFST website <https://aifst.asn.au>.

Recent AIFST Member Event



Delegates at the AIFST Microbiology Toolbox Talk in April 2017.

Toolbox Talk – Microbiology Compendium

The AIFST Microbiology Community of Interest (COI) held its first event for 2017 in April, a toolbox talk that looked at the Microbiology Compendium that was released in October 2016 by Food Standards Australia New Zealand (FSANZ).

Three interesting and informative speakers guided attendees through the implications of the Compendium from both a private and public sector perspective.

Patricia Blenman, Senior Food Scientist at FSANZ, talked through the guideline documents, the review principles and food safety and process hygiene criteria. Patricia also drew attention to the Food Safety Hub FSANZ has as a resource on their website.

Dr Craig Shadbolt, Food Authority of NSW Department of Primary Industries, gave an overview of *Campylobacter* and control measures in the Compendium. Craig noted that the Compendium should not be seen as a resource burden on industry but as verification and guidance for existing processes. Craig noted that there were 24,000 *Campylobacter* notifications nationally in 2016; common symptoms should resolve after a couple of days but severe cases can result in nerve and brain damage, a sobering reminder about the extreme importance of our industry's work.

Dr David Miles, Product Compliance Manager at Coles, gave a presentation on the verification testing program, Coles Brand testing specifications and product versus environmental monitoring. David also touched on how social media is impacting on product complaints, which was fascinating, and the complexities with Country of Origin labelling requirements.

For further information on the Microbiology Compendium please contact AIFST.

LA JUDGE AWARD TURNS 50

— Promoted by AEGIC —

Australasia's most prestigious annual baking prize – the LA Judge Award – will celebrate a very special milestone between 16-18 May 2017. The LA Judge Award, which pits young apprentice bakers from across Australia and New Zealand against each other over three days of friendly but intense competition, was established in 1967, which means that the 2017 event will be the 50th anniversary.


Following three days of rigorous competition, a special 50th anniversary retrospective gala dinner will be held on 18 May overlooking Darling Harbour, attended by 200 baking industry stakeholders from across Australia.

AEGIC General Manager Research and Technical Services Dr Ken Quail said the 50th LA Judge Award promised to be the biggest and best yet. "Reaching this milestone is a fantastic achievement. For 50 years, the LA Judge Award has promoted excellence for young bakers and recognised baking ability and industry knowledge to identify future industry leaders" Dr Quail said.

"Each year, the three-day LA Judge Award competition culminates with a gala dinner and award evening, which is a fantastic opportunity for the whole Australasian baking industry to come together and celebrate the wonderful young men and women who are the industry's future. "For those in the baking industry who have

never attended an LA Judge Award gala dinner before – or even if you have – this is an unmissable event."

Dr Quail said the competition was run with the support of industry sponsors, including Gala Dinner Sponsor Woolworths together with Major Sponsors Puratos, Mauri ANZ, Manildra, Australian Bakels and Le Saffre.

The LA Judge Award was established in 1967 and is named in honour of Australian baking industry legend, Les Judge, who was known for engaging with farmers and other bakers to improve the industry. 

For more information and to purchase tickets visit www.aegic.org.au or call 08 6168 9904.



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industry bites

Executives on the move



Food Standards Australia New Zealand (FSANZ) has appointed a new chief executive officer, **Mark Booth**, succeeding Steven McCutcheon who held the job for 10 years.



Managing director of Coca-Cola Amatil's Australian beverages unit, **Barry O'Connell**, resigned to return to Europe. Peter McLoughlin will take over from O'Connell until a permanent successor is found.



Outgoing Wesfarmers managing director **Richard Goyder** will replace Michael Chaney as Woodside Petroleum chairman next year. Goyder will join as chairman-elect on 1 August, 2017.



Infant formula supplier Bellamy's Organic has appointed **Rodd Peters** as its new chairman after Rob Woolley resigned and all but one sitting board member were removed by shareholders.



Fonterra appointed **Lukas Paravicini** to the role of chief operating officer, global consumer and foodservice, with effect from 1 June 2017.



Murray Goulburn chairman Philip Tracey retired at the end of March and was replaced by **John Spark**.



Gary Crawford has succeeded Andrew Dawson as commercial director at Givaudan Australia.

Australia pioneers anti-mould technology

Australian plant disease researcher from Murdoch University, Dr Kirsty Bayliss, has discovered a method of preventing mould from growing on fresh food. Her technology, Breaking the Mould, is a chemical-free treatment that increases shelf life in fresh produce, preventing mould and decay and reducing the worldwide problem of food wastage and addressing global food security. The technology is based on plasma that kills the moulds that grow on fruit and vegetables, making fresh produce healthier for consumption.

Proposed import food reform law

The Australian federal government released a first draft of proposed regulatory changes, which it says will "better protect Australia from unsafe imported foods" without "unnecessary red tape". The public, food companies and Australia's trading partners were invited to read and provide comments on the proposed regulatory changes. The government has stated that it is committed to keeping Australia's borders strong with the changes giving the government greater scope to hold food at the border if there are reasonable grounds to suspect it poses a serious risk to human health. It says under the proposed changes, if an

incident like the outbreak of hepatitis A linked to imported frozen berries happened again, the government could put in place a holding order for such imports at the border.

New peak body for the seafood industry

The National Seafood Industry Alliance (NSIA) has announced the formation of Seafood Industry Australia (SIA), a new peak body for the seafood industry. The newly appointed board includes Jonathan Davey (chair), Marshall Betzel, Chauncey Hammond, Dennis Holder, Veronica Papacosta, Mark Ryan, Marcus Stehr, and Belinda Wilson. The selection of the pro tem directors is a critical step in the United Seafood Industries' project to form a new peak body to represent the interests of seafood businesses across Australia. SIA will be a strong advocate for Australia's \$2.8 billion seafood industry, promoting and supporting opportunities for our seafood industry.

Agribusiness city to be developed in Melbourne

A region in Melbourne's outer western perimeter near Melton will become home to a peri-urban agribusiness. Across phased stages, the land will be used to develop an "interlinked, closed-loop agribusiness model" that will help grow local employment.

A blend of intensive, organic and experimental agricultural products and associated research and development will also be conducted on the site. The long-term vision for the site includes the creation of an inviting, dynamic town centre, innovative education facilities, contemporary residential dwellings that incorporate the latest sustainability features and a focus on attracting tourism.

Fonterra “world-first” protein for sports drinks

Fonterra is hoping to make waves in the sports nutrition industry by launching a new protein ingredient claimed to deliver at least 10 per cent more protein than other standard whey protein offerings. Designed for use in sports drinks and energy bars, Fonterra says the new protein ingredient is faster acting, as well as being lower in fat, sugar and carbohydrates than other similar protein products. In what is believed to be a world first, lactic casein whey is being used to make the protein ingredient. ▶▶



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NEXBA wins Global Product of the Year (Beverage Category) 2017


Nexba, an emerging Australian beverage company dedicated to eradicating sugar from soft drinks, was awarded Product of the Year (Beverage Category), in Australia's largest independent consumer survey of new products. Global research company Nielsen surveyed thousands of Australian shoppers to determine the winners across a range of category sectors. Nexba was first to market with a natural sugar-free offering and is riding the wave of the global surge of the anti-sugar movement.

Federal government responds to Horticulture Code of Conduct review

The Australian federal government has responded to the review of the Horticulture Code of Conduct, calling for measures to support compliance with the Code and remove unnecessary regulation. The government said its response to the recommendations will:

- ◆ Provide better guidance to make it easier for traders and growers to comply with the Code
- ◆ Ensure growers and traders have a fair, binding horticulture produce agreement in place to support a more productive and fair trading relationship
- ◆ Allow the ACCC to better identify and rapidly respond to breaches to further support compliance with the Code
- ◆ Remove unnecessary regulation where appropriate and allow growers and traders greater flexibility in the trading relationship.

New Food Science Innovation Precinct at University of Queensland (UQ)

UQ has opened a new \$1 million Food Science Innovation Precinct that aims to drive new products and research in probiotics, omega-3, functional foods and dairy. The Precinct has two state-of-the-art laboratories including a food grade laboratory and an analytical laboratory for chemical and microbiological analysis. Students will be able to work on new projects such as omega-3 probiotic food and drinks, milk produced without heat pasteurisation and 3D printed fruits. 

industry save the

National

15-17 May 2017

Hort Connections
Adelaide

18-20 May 2017

Dietitians Association of Australia 34th National Conference
Hobart

23-25 May 2017

AFGC Food and Grocery Australia Conference
Brisbane

28-30 May 2017

Foodservice Australia 2017
Melbourne

31 May 2017

ConTech2017
Melbourne

4-5 June 2017

Naturally Good Expo/Fantastic Food + Drink
Sydney

16-17 June 2017

Fantastic Food + Drink Show
Sydney

16-17 June 2017

ProPak Asia
Sydney

26-27 June 2017

Drinks Industry Show
Sydney

16-19 July 2017

Foodpro
Sydney

17-18 July 2017

AIFST 50th Anniversary Convention
Sydney

19 July 2017

AIFST Humanitarian Food Science and Technology Symposium
Sydney

dates



International

10-11 May 2017

Food Integrity 2017
Parma, Italy

22-24 May 2017

World Food & Nutrition Congress
Las Vegas, Nevada, USA

22-24 May 2017

7th Annual Food Sure Safety & Quality Summit
Amsterdam, Netherlands

31 May-4 June 2017

Thaifex
Bangkok, Thailand

5-7 June 2017

6th International Conference on Food Safety & Regulatory Measures
Milan, Italy

7-11 June 2017

Manila Food and Beverage Expo
Manila, Philippines

14-17 June 2017

ProPak Asia
Bangkok, Thailand

25-28 June 2017

Institute of Food Technologists (IFT) Annual Meeting
Las Vegas, Nevada

25-27 June 2017

Africa's Big Seven
Johannesburg, South Africa

4-6 July 2017

NZIFST Annual Conference
Nelson, NZ

9-12 July 2017

International Association for Food Protection
Tampa, Florida, USA

27-29 July 2017

17th Global Summit on Food and Beverages
Chicago, USA



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PB10385

THE TRIUMVIRATE UNDERPINNING AUSTRALIA'S FOOD INDUSTRY

Good business, good laws, good food.

Words by Geoffrey Annison PhD

Acting Chief Executive, Australian Food & Grocery Council



Australia has a reputation for producing a wide range of wholesome, quality food products for over 23 million domestic consumers, and many more in export markets. That reputation is built on a number of factors including a perception, and indeed the reality, that:

- ◆ Australia is a large continent with diverse regional climates supporting a wide variety of agriculture and aquaculture industries
- ◆ The remoteness of Australia has spared it many of the environmental problems of more populous areas resulting in relatively pristine food production
- ◆ The food manufacturing sector is modern and technologically advanced.
- ◆ Most importantly, Australia has a world-class food regulatory system mandating that food offered for sale is safe.

Indeed, it is the last two factors operating together that has resulted in Australia's overall food production being rated as extremely safe by world standards. The manufacturing industry in Australia, like that of other developed economies, comprises multinationals as well as locally owned companies. Together they meet the needs of Australia's multicultural population, manufacturing food products predominantly from Australian-grown food ingredients supplemented by imported specialist ingredients, food additives and processing aids. The industry's turnover in 2014-15 was AU\$125.9 billion, with exports of elaborately transformed food and beverage products

reaching AU\$26 billion in 2015-16. Our regulatory system is also advanced and complex, mirroring the nature of the industry. A three-tiered approach comprising corporate law, consumer law, and food law mandates not only that food products must be safe, but also the business practices and corporate strategies that underpin product integrity. The food manufacturing industry meets these legal requirements through its corporate policies, business practices and technical know-how.

Corporate Law

Australia's corporate law requires company directors and senior management to act in the best interests of the company. For the food manufacturing industry, protecting the reputation of the company and its brands is paramount. Nothing can damage the reputation of a brand, and therefore sales, as quickly as a breakdown in product integrity resulting in a food safety incident. This immediate erosion in shareholder value from loss of consumer trust can be quickly compounded by the costs of conducting a product recall, managing the public relations challenge, and additional marketing costs required if there is a product re-launch.

The board of directors of food companies, and their senior management, are of course acutely aware of this obligation to protect the interests of the company and the impact that a food safety incident may have. Consequently, best practice is that food safety

and quality assurance is included in companies' risk registers and is routinely reviewed as a part of good corporate governance and the audit and risk management duties of company boards. In practice, this means that boards, their chief executives and senior managers ensure that food safety and quality systems are employed throughout production, with appropriately trained and competent staff.

Consumer Law

The second tier of regulation supporting the production of safe food is Australian consumer law. The Australian Competition and Consumer Commission (ACCC) administers and enforces the Australian *Consumer and Competition Act 2010* (the Act). Among the many obligations the Act imposes on businesses is the requirement that products and services are safe, accurately described and fit for purpose. This applies to foods and beverages as much as any other product and, clearly, if a breakdown in product integrity (safety or quality) occurs then the company is non-compliant with the Act and at risk of legal sanction.

In the event of consumer harm occurring, including illness and death from food poisoning, the ACCC must be notified within 48 hours. The ACCC will determine if a company is adequately addressing the situation and can implement regulatory sanctions if not satisfied, ranging from public notification of safety risks through to ordering a mandatory recall. The Act provides legal remedies for affected consumers to recover loss caused by "defective" products. A product is defective if it fails to provide the degree of safety that persons generally are entitled to expect, taking into account the circumstances. These actions are based on strict liability, which means that there are few available defences. Actions for compensation can be pursued by individuals, but more importantly as class actions on behalf of all affected consumers or by the ACCC itself as a representative action.

Companies protect themselves and their directors and staff by implementing business processes and systems, which not only effectively mitigate the risk of producing unsafe food, but also establish clear lines of accountability. These business processes also serve to demonstrate due diligence in the unlikely event that something does go wrong and unsafe products enter the market.

Food Law

Australia is a Commonwealth comprised of six states and two territories. Agreement between the governments of the Commonwealth and the states and territories provides the basis for a national uniform approach to food law, which also extends to New Zealand through an agreement between our governments. The *Australia New Zealand Food Standards Code* (FSC) is developed, reviewed and amended by the bi-national agency Food Standards Australia New Zealand (FSANZ) under the broad policy direction of the Australia New Zealand Ministerial Forum on Food Regulation. States and territories adopt by reference the provisions of the FSC into their food regulations. In enforcing the regulations, the states and territories retain power to bring in additional food regulations in emergency situations through various mechanisms and agencies, which differ from jurisdiction to jurisdiction. The FSC places an absolute obligation on businesses that food for sale must be safe and suitable and that food companies must

develop and operate to appropriate food safety plans based on a preventive approach. The FSC also includes specific limits on the levels of particular hazards that may be present in foods and food ingredients. These include naturally occurring toxins such as plant toxins, environmental contaminants such as heavy metals, residues from chemicals that may have been used in agricultural production or manufacture, and microbial contamination such as a *Salmonella* spp and *E. coli*.

The limits are based on a specific toxicity or infective dose data for the particular hazard coupled with dietary modelling, which estimates the likely exposure level of population subgroups. Reflecting the modern paradigm that food regulation should be outcomes focused rather than prescriptive, the onus is firmly on food companies to demonstrate that they are, and are capable of, producing safe food. Food companies are acutely aware of this obligation under food law. They meet the obligation by developing and rigorously adopting food safety management plans, mostly based on HACCP principles.

The food safety plans include verification steps which demonstrate the food coming off production lines is safe. Although the complexity of food production varies considerably with the nature and size of the food business, the fundamental principles and approach to assuring food safety are the same.

State and Territory enforcement agencies conduct regulatory audits periodically, with the frequency determined by the nature of the business and a risk assessment. In addition to compulsory food safety regulations a large number of private (proprietary and commercial) standards have been developed which incorporate requirements for safe food production as well as additional requirements which relate to other aspects of quality or methods of production. Retailers, quick service restaurants, food service companies and major manufacturers commission a large number of audits of their suppliers for compliance with these private standards.

The overlay of private standards such as those developed by the British Retail Consortium Global Food Safety Initiative, and the standards developed by downstream customers reinforces and amplifies the Australian food industry's commitment to food safety. Furthermore it reflects the fundamental truism that food safety is a common objective of both regulators and business. Safe food regulation protects consumers; safe food production protects consumers and protects brands. Protected brands become trusted brands which is the critical underpinning of successful food and beverage manufacturing businesses.

The objectives of food regulators and businesses are perfectly aligned when it comes to food safety. The excellent reputation for safety and quality of Australian food products is founded on that alignment with Australian consumers, and consumers of Australian products overseas, being the ultimate beneficiaries. ⑩

References for this article can be found on the AIFST website: <https://www.aifst.asn.au>



*The Minister for Industry,
Innovation and Science*

SENATOR THE HON ARTHUR SINODINOS AO

*on innovation, entrepreneurship
and his vision for the Australian
food industry.*

What do you see as the short-term food policy priorities you need to address as Minister?

Creating a culture of innovation and entrepreneurship to drive new economic growth is central to my vision for the economy and my new portfolio. Ensuring businesses take full advantage of the opportunities presented by implementation of our \$1.1 billion National Innovation and Science Agenda (NISA) is essential to this. The NISA is about using science and innovation to improve existing firms, as well as helping new firms get their ideas off the ground.

We're supporting:

- ◆ Collaboration between local businesses and researchers and international partners through the \$18 million Global Innovation Linkages Programme
- ◆ Start-ups to rapidly transform innovative ideas into globally competitive businesses through the \$23 million Incubator Support initiative
- ◆ New businesses getting established in international markets through the \$11.2 million Landing Pads initiative.

We can stay ahead in a global economy through continued innovation – in small firms, medium firms and large firms. Innovation across the food and agribusiness sector is enhancing food processing efficiency, increasing farming yields, reducing food waste, getting fresher products to customers, making Australian products stand out on international shelves, and enhancing nutritional value.

And it's about new ways of producing old crops, like the fresh approach taken by Sundrop Farm when it expanded its arid horticulture operation near Port Augusta in South Australia. Its \$200 million facility is the first commercial scale, high-tech greenhouse facility of its kind in the world. The company has secured a 10-year contract with Coles to grow truss tomatoes in high-tech greenhouses that integrate renewable energy and desalination.

The government is innovating too. The new Country of Origin Food Labelling provisions in the *Competition and Consumer Act* passed by the Parliament in February 2017 give consumers clearer labelling information about the origin of foods. This helps consumers make informed decisions about the food they buy. The reforms make it easy for businesses to make labelling changes during a two-year transition period. An online tool allows them to download customisable origin labels for their food products from business.gov.au. It's great to see so many products already on the shelves with the new labels.

What do you see as the long-term priorities in your role as Minister in relation to the Australian food industry?

Intense competition from our global competitors catching up fast and winning market share from us in Asia means we cannot rest on our laurels as established food traders. It's great that so many Australian businesses are responding by value-adding throughout their operations. I see commercial collaboration between universities, research and business as vital to maintaining our competitive edge. The industry vision set by Food Innovation

Australian Limited (FIAL), the Food and Agribusiness Growth Centre, places the onus on food and agribusiness firms and industry bodies to champion a culture where businesses and researchers seek entrepreneurial collaborations.

It's my intention that the government plays an important enabling role by investing in research and infrastructure that supports businesses to grow. In this, we are being advised by FIAL and CSIRO's Agriculture and Food Group on the sector's science and research investment priorities. These are: food security and sustainability; enhanced production and value adding; future consumer insights; and improving global connectedness.

There is huge potential for high-value, specialised jobs in Australian manufacturing so on a broader scale we are supporting science, technology, engineering and mathematics (STEM) skills and literacy. This will equip Australia's workforce for the jobs of the future. Along with firms from other sectors, accessing skilled workers will help food and agribusiness firms get the job done and perform well in the global economy.

What government initiatives or strategies do you have planned to underpin innovation in the food industry?

Building competitiveness in all parts of the food and agribusiness supply chain is a major strategic priority for the government. We're delivering a host of measures that will drive the innovation in the sector that is central to this. Productivity in key agricultural commodities is being grown by Rural Research and Development Corporations; the Industrial Transformation Research Program supports university-based industrial research; Cooperative Research Centres (CRCs) use industry-research partnerships to help solve industry-led challenges; and CSIRO's SME Connect Programme is linking businesses with CSIRO's expertise and know-how.

In other investments, I have recently announced the next round of new CRCs, which have a strong food and agribusiness focus. In this latest round, the Australian government has committed \$96.5 million to CRCs for high performance soils, honey bee products and food agility to undertake innovation and research that will find practical solutions to industry problems and produce tangible outcomes.

As part of an additional \$18 million being invested in the Australian government's Innovation Connections, we have supported 18 food and agribusiness innovation projects worth over \$1.4 million completed. Another 48 projects worth over \$5 million have commenced. Darwin-based Karen Sheldon Catering is an Innovation Connections success story improving the shelf life of the company's frozen food products by replacing artificial additives with natural native foods, following a collaboration with the University of Queensland.

FIAL promotes commercial innovation in the food and agribusiness sector by joining businesses with researchers and brokering commercial collaborations. FIAL's Enterprise Solutions Centre brokered a collaboration between niche Brisbane baristas, Queen of Pops, and food technologists to develop an innovative popsicle product tasting like freshly brewed coffee. Commercialising new products like this is fundamental to the future of the industry.

How do you see your government providing sound incentives and good policy?

Creating a globally competitive business environment that encourages firms to innovate is a fundamental task of the government. I am confident business and workers will embrace innovation with the right investment incentives, world-class science infrastructure, and minimum effective regulation. The government is seeking optimal settings for growth in areas such as business tax and finance, labour efficiency, productive infrastructure and skills development across all industry sectors.

When we announced NISA, we announced we would be changing funding incentives for university research. Traditionally, universities have been rewarded for their research outputs, however we want to ensure greater commercial collaboration with businesses. So we're introducing new research funding arrangements for universities that give equal emphasis to commercial successes and business engagement as it does to research quality.

The National Business Simplification initiative is also making life easier for businesses. My colleague, the Hon Craig Laundy MP the Assistant Minister for Industry, Innovation and Science, is working closely with the states and territories on projects to make it easier for businesses to interact with government. The Australian and New South Wales governments are trialling a single site for users to apply for business registrations. This is just one example of how business simplification will deliver entrepreneurs real time savings so they can focus on growing and creating jobs.

How do you see free trade agreements working in relation to the food industry?

Free trade agreements (FTAs) with China, Japan and South Korea mean that producers and regional Australia are on the cusp of exciting times. These are some of the largest and fastest growing markets for Australian food. For local producers, these FTAs make the price of Australian food more competitive in global markets delivering new opportunities.

Already, Australian businesses are reaping the benefits. In just one season, Reid Fruits in Tasmania increased its exports to South Korea from 5 tonnes to 185 tonnes following the removal of tariffs under the Korea-Australia FTA. The job is ongoing – the government will continue pursuing trade deals that deliver more opportunities to local producers. Alongside FTAs, our reforms of Australia's food import and food export regulations will ensure that Australian producers can take full advantage of FTA opportunities with efficient flow of food goods and protections against biosecurity threats.

Businesses are also building the skills to succeed in new export markets. It's great to see various industry-led groups supporting aspiring food exporters into new export markets. Morlife, a Queensland functional food supplier, recently established new export sales for its chocolate snack range after developing new skills and contacts through FIAL's export development workshops, inbound buyer missions and trade show promotions. While Australia is an accomplished food trader, we can always be better international food marketers. 

HEMP SEEDS GET THE GREENLIGHT

One of a number of proposed changes to the Food Standards Code.

Words by Food Standards Australia New Zealand (FSANZ)

In the first half of 2017, Food Standards Australia New Zealand (FSANZ) finished work on several proposals and applications to amend the *Australia New Zealand Food Standards Code*. Ministers responsible for food regulation are notified of all FSANZ decisions and can either ask for a review or agree that the standard should become law.

The FSANZ board approved the sale of food derived from the seeds of low delta 9-tetrahydrocannabinol varieties of *Cannabis sativa* (*C. sativa*; low THC hemp). *C. sativa* is well known as a source of the psychoactive substance THC, but some varieties contain no or very low levels of THC and do not have psychoactive properties. These are commonly referred to as hemp, industrial hemp or industrial cannabis.

Like nuts and other seeds, hemp seeds are a good source of protein, polyunsaturated fats, dietary fibre and micronutrients such as thiamin, vitamin E, phosphorus, potassium, magnesium, calcium, iron and zinc. Hemp seeds also have a favourable fatty acid profile, with more than 80 per cent unsaturated. Until now the sale of foods derived from hemp had been prohibited, but after a risk assessment process, FSANZ concluded that low THC hemp seed foods are safe for consumption.

The FSANZ board also approved an amendment to permit the use of oryzin (protease), a new enzyme produced from *Aspergillus melleus*, as a processing aid in baking, flavouring production and dairy, egg, meat, fish, protein and yeast processing. From the evidence assessed, FSANZ is satisfied that the enzyme is effective in achieving its stated purpose and that international purity specifications are met.

A risk assessment concluded that there were no public health and safety issues. A review of toxicological data concluded that in the absence of any identifiable hazard, an Acceptable Daily Intake of "not specified" was appropriate and a dietary exposure assessment was not required.

Approval was given to an application to permit the addition of an alternative (docosahexaenoic acid) DHA-rich algal oil derived from *Schizochytrium sp.* to infant formula products at levels


consistent with other DHA oils already approved and sold under the trade names DHASCO-B, or DHA-B. The oil is reportedly more productive than other marine algal DHA-rich oils currently on the market. A risk assessment found no health or safety concerns at the levels proposed.

FSANZ is currently working on a proposal on how food allergens can be declared more clearly and in plain English on food labels. Food allergens must be declared whenever they are present as an ingredient, food additive or processing aid, but there are no requirements on how these declarations must be made on food labels. A lack of regulatory clarity has led to unclear wording on some food labels, which puts allergen-sensitive consumers at risk because they may not be able to identify allergens. FSANZ will be seeking public comments on the changes later in 2017.

In the second half of 2017, FSANZ will consider an application to add a new method of analysis for dietary fibre and embark on two major projects: developing an alternative framework for the regulation of nutritive substances and novel foods; and revising and clarifying standards relating to infant formula.

FSANZ has developed a simple three-step process – "Know, Do, Follow Through" – to help food businesses and regulators work together to improve food safety culture, which is critical for producing safe food, protecting a company's reputation and minimising the risk of financial loss. The first resources are now available in the Food Safety Hub on the FSANZ website.

They include:

- ◆ An introduction to food safety culture.
- ◆ Step 1: "Know" – a quick food safety culture "health check" in the form of a short questionnaire.
- ◆ Step 2: "Do" – checklists for change, including key steps to a strong food safety culture.
- ◆ A poster outlining what a strong food safety culture looks like. 

We will be developing further resources over the coming months. For more information see the Food Safety Hub or contact FSANZ at foodsafetyculture@foodstandards.gov.au. For more information on applications and proposals visit the FSANZ website.

foodpro 2017

A CLOSER LOOK

at the future of food

16-19 JULY 2017

International Convention Centre,
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The iconic event for the food and beverage manufacturing industry returns to Sydney in July 2017 to showcase the latest in food science and technology. See the latest lab testing equipment, ingredients, additives, food safety solutions and more.

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AIFST 50TH ANNIVERSARY CONVENTION

17-18 July 2017
International Convention Centre, Sydney

DON'T MISS THE FOOD INDUSTRY EVENT OF THE YEAR!

Registrations are currently open for the premier event on the 2017 food industry calendar! Join the largest grouping of Australia's food industry professionals in one location at the new International Convention Centre (ICC) in Sydney for the historic AIFST 50th Anniversary Convention and 50th Anniversary Gala Dinner.

Focusing on The Future of Food, the Convention is a major highlight of 2017 that will bring together the latest in cutting-edge science, technology and innovation which will drive our food industry for the next 50 years.

A prestigious line-up of speakers and sessions will cover the consumer of the future; future technologies and innovations advancing the food industry; managing emerging threats and vulnerabilities; navigating the export and regulatory market and insights into current scientific research that will underpin the future of the Australian food industry.

Individual and group booking options are available. Group bookings include corporate registrations and discounted packages when you purchase five tickets in one transaction. For full details and to register today, visit: <https://www.aifst.asn.au>.



HUMANITARIAN FOOD SCIENCE AND TECHNOLOGY SYMPOSIUM – Wednesday, 19 July, 2017

AIFST will play host on the international arena when it hosts the Humanitarian Food Science and Technology Symposium immediately following the AIFST Convention on Wednesday, 19 July, 2017.

This unique symposium will bring together a number of experts from Australia and around the world to discuss issues relating to humanitarian and emergency feeding. The symposium will provide delegates with the chance to hear firsthand from international experts on the current role food science and technology is playing in international humanitarian efforts while also exploring innovation in the sector and lessons learnt in the field through presentation of case studies. There will be the opportunity to discuss and debate the challenges, opportunities and gaps in knowledge to determine proposed outcomes and future directions for the global community in further utilising food science and technology to support humanitarian and emergency feeding.

The symposium will benefit those with an interest in food science and technology along with those working in NGOs, governments, academia, research institutes and the private sector. The symposium will also provide networking opportunities with both local and international colleagues including representatives from the Food

and Agriculture Organisation (FAO), United Nations World Food Programme, World Vision, Foodbank Australia and the Defence Science and Technology Group.

This symposium is supported by CSIRO, The University of New South Wales, Global Alliance for Improved Nutrition (GAIN), United Nations World Food Programme, University of Lille and World Vision.

Symposium tickets are available for purchase via the AIFST website: <https://aifst.asn.au>.

AIFST WOULD LIKE TO THANK OUR SYMPOSIUM PARTNERS



FOODPRO 2017 RETURNS TO SYDNEY FOR ITS 50TH YEAR! Co-located with AIFST's 50th Anniversary Convention

Dates: Sunday, 16 July to Wednesday, 19 July, 2017

Opening Hours: Sun: 11am-5pm; Mon & Tue: 10am-5pm; Wed: 10am-3pm

Foodpro, the event that serves as a bastion for the food manufacturing and processing industry, will have an incredible 2017 show celebrating its 50th anniversary with the largest event ever staged. Along with a show packed with innovative exhibitors, it is once again co-locating with the AIFST 50th Anniversary Convention.

The show, which will feature over two floors of product and technology at the newly renovated International Convention Centre

exhibition building in Darling Harbour, Sydney, has confirmed incredibly exciting and innovative exhibitors such as Universal Robots, Nano Bubble Technology and KROHNE, just to name a few. Featuring the four key industry precincts: food processing technology; food packaging; plant equipment; and food technology, Foodpro 2017 will bring a renewed focus on two specific areas of the industry: ingredients and food safety.

A tour of the Foodpro show floor will give delegates first looks at cutting edge technology – some that are still to be announced or are being debuted at the show. There will be plenty of opportunity

to visit Foodpro both before and after the AIFST convention, which is running Monday, 17 and Tuesday, 18 July.

Foodpro has been on the forefront of food industry technology for the 50 years the AIFST has been in existence, and will continue to be the place for engagement and discussion on technology in food processing. As food safety becomes more and more important, the need for qualified industry members – such as those who belong to the AIFST – to be involved in the conversation is paramount.

Entry to the Foodpro exhibition is included in all AIFST Convention registrations.



CONVENTION PROGRAM AT A GLANCE

Over the course of two days, Convention delegates will get the opportunity to hear from over 65 industry experts covering the latest in science, technology and innovation. Let's take a look at the key Convention sessions:

Innovation

Who is the Future Consumer?
Commercialising Innovation
Future Nutritional Needs of Australian Consumers
Fact or Fiction: Debunking Food Myths

Technology

Where to Next: The Future of Technologies
What's Next in Packaging Innovation
(See page 29 of this issue to hear more from our speakers)
Driving Supply Chain Efficiencies & Processes

Science

Food Safety – The Golden Years?
Managing Emerging Threats & Vulnerability
The Future Palate of Consumers
And more, including sessions on how to navigate the export market and regulatory environment.

Industry Roundtable

Financing Innovation & Growth in the Australian Food Industry. Not to be missed, the Industry Roundtable will bring together industry leaders from R&D, government, ASX-listed and venture capital operations to round out the Convention discussing how we fund innovation and growth of the Australian food industry. Industry roundtable participants include:

- ◆ Fiona Locke, director CHAMP Private Equity
- ◆ Barry Irvin, executive chairman Bega Cheese
- ◆ Professor Martin Cole, Deputy Director CSIRO Agriculture and Food
- ◆ Peter Schutz, chair AIFST & Food Innovation Australia Limited
- ◆ Michele Allan, chair Council of Rural Development Corporations
- ◆ Craig Heraghty, National Agribusiness Leader, PricewaterhouseCoopers (PwC) Australia

Keynote Presenters

Here is a brief highlight of the confirmed keynote speakers for the AIFST 50th Anniversary Convention. Visit the AIFST website for more information as new speakers are announced.



R Vickery Address – Barry Irvin, executive chairman Bega Cheese

Barry will present the 2017 JR Vickery Address in honour of the inaugural President of AIFST, JR Vickery. As executive chairman of Bega Cheese, Barry will share his thoughts and views on the current state and future of the dairy industry.



Brianna Casey, CEO Foodbank Australia

Brianna will share with the delegates the work of Foodbank and how the "social conscious of food" is changing and there is the need to shift the paradigm.



Bernadette Eriksen, founder and CEO Flavour Creations

Bernadette's Brisbane-based \$30 million food manufacturing company researches and develops innovative dysphagia and nutrition products intended to support a healthy lifestyle and improve the lives of thousands living with dysphagia. Bernadette will be presenting a case study on the Flavour Creations Dysphagia Cup – a revolution in the international ready-to-drink thickened beverage market.




CONVENTION SOCIAL PROGRAM

Young Professionals Networking Breakfast

7.00-8.30am – Tuesday, 18 July 2017


Following a successful inaugural breakfast at the 49th Convention, this year's free breakfast provides the opportunity for AIFST members aged 30 years and under to meet their peers, hear from industry leaders and make invaluable connections. AIFST young professionals can register to attend the breakfast as part of their Convention registration.

Inaugural AIFST Fellows Breakfast

 7.00-8.30am – Tuesday,
18 July 2017

AIFST will launch its Inaugural Fellows Breakfast at the 50th Anniversary Convention with the support of partner Manildra. This networking breakfast provides a wonderful opportunity for our Institute Fellows to network and meet newly appointed Fellows while catching up on industry news and sharing their recollections of AIFST and the industry over the past 50 years. AIFST Fellows can register to attend the breakfast as part of their Convention registration.

Wine and Cheese Tasting Sensation

 6.00-8.00pm – Monday,
17 July 2017


The Wine and Cheese Tasting Sensation has long been a key

highlight of the AIFST Convention social program and this year ICC's philosophy of creating world-class cuisine will be on full display! With the support of our partner AJ Park, Convention delegates will enjoy a two-hour culinary experience at the Wine and Cheese Tasting Sensation. Tickets to the Wine and Cheese Evening are included in all full Convention registrations and any one day Convention registrations purchased for Monday, 17 July, 2017.

*Individual event tickets may be released closer to the Convention subject to availability.

AIFST 50th Anniversary Gala Dinner

7.30pm – Tuesday, 18 July 2017

Doltone House, Jones Bay Wharf, Sydney The Australian food industry will come together for a night of celebrations as we honour this significant milestone in the history of AIFST. The AIFST 50th Anniversary Gala Dinner is a chance for members new and old and longstanding industry partners to reflect on the important role food science and technology has played in advancing the Australian food industry while symbolising the next era of the Institute as we look to the next 50 years. Tickets to the AIFST 50th Anniversary Gala Dinner are included in all full Convention registrations. Individual tickets to the Gala Dinner are available for purchase via the AIFST website. 

“As Australia’s premier convention, exhibition and entertainment precinct, ICC Sydney is dedicated to creating world-class food and has embraced the industry-first Feeding Your Performance culinary philosophy. We deliver ‘smart’ menus comprising fresh, seasonal ingredients, expertly combined to drive the physical and mental performance of our guests. Good food is a key driver for a delegate’s productivity, helping provide the best possible environment for collaboration and engagement, and this approach is central to our commitment to the success of our clients, such as AIFST 50th Anniversary Convention delegates.”

Executive Chef at ICC Sydney,
Tony Panetta

AIFST WOULD LIKE TO THANK OUR CONVENTION PARTNERS:



CLEAR WINNER

Stale crackers are a thing of the past with Australian Wholefoods' award-winning new packaging.



Winner of the inaugural 2017 Packaging and Design award for Materials and Packaging, Levodo Grain Thin Crackers has clear plastic packaging – an innovation for the healthy biscuit category, which has been traditionally dominated by cardboard boxes or plastic sleeves. The awards, developed by the Australian Institute of Packaging (AIP), the Australian Packaging and Processing Machinery Association (APPMA) and the Packaging Council of New Zealand, were designed to recognise companies and individuals making a significant difference in their field.

Australian Wholefoods for Levodo Grain Thin Crackers features a packaging design that maintains product shelf life even after the tamper-proof seal has been broken and does not destroy the branding once the pack is opened. The tube can be used as a storage container for the remaining crackers so they will remain fresh and do not need to be transferred to a separate storage container. AIFST spoke with Australian Wholefoods about their innovative packaging concept.

How did you come up with the concept?

The packaging was a collaborative effort between Australian Wholefoods and our advertising agency, Cummins Hybrid. The product looks unique, so we wanted to optimise the consumers'

ability to actually see the cracker. Hence the concept of clear packaging, making the product highly visible for the consumer. In a cluttered retail environment, the packaging also improves shelf impact through its unique appearance. This packaging (as well as the cracker) was then researched through focus groups. Consumers liked the functionality and different appearance and identified there was nothing similar on the market.

How is the packaging unique?

Being clear packaging, the product is highly visible. The plastic cylinder also acts as a storage container and crackers are housed in the cylinder on a clear plastic tray for easy removal of the product. The tray has a small lip for easy removal for consumers with dexterity issues.

How long did it take from concept to reality and what difficulties did you face along the way?

It took 12-18 months to develop. To avoid importing the plastic tubes, Australian Wholefoods purchased the manufacturing equipment for the formation of the cylinder here in Australia. One of the key challenges was labelling the plastic cylinders. Our initial short-term concept was to have the label as an insert slotted inside the container, however with the highly reflective nature of the clear cylinder these did not pass GS1 approvals as

What's Next in Packaging Innovation?

The AIFST 50th Convention will feature the session **What's Next in Packaging Innovation?** From 11.15am - 1.00pm on Tuesday, 18 July, 2017. Below we highlight what AIFST 50th Anniversary Convention delegates can expect from our packaging presenters:

The future of packaging – trends driving the next wave of innovation – Matthew Fenech, Sealed-Air

Matthew's 25-year career journey with Sealed Air is demonstrative of his passion for the food and packaging industry. Matthew's presentation will look at why packaging is critical to your products! With eating experience being a key trend this presentation will focus on how new innovations in packaging can take consumers eating experience to the next level! Matthew will also cover food waste, one of the biggest challenges of society today and how packaging strategies can have a major positive impact.

Packaging for export: guaranteeing food safety – Dr Paul Gurr, University of Melbourne

Paul is a senior Research Fellow at the University of Melbourne working in the Polymer Science Group with a background in organic synthesis. Paul's presentation will outline the outcomes from two areas of research: thermochromic polymer systems and polymeric systems triggered by applied mechanical forces. Both technologies are being specifically designed for the food packaging industry.

Anti-counterfeiting – innovating to keep ahead of the pack – Michael Dossor, Result Group

Michael is group general manager of Result Group and has spent 30 years in the packaging industry, having started his career in technical support roles within the coding and marking segment and expanding his skills in sales and marketing. A partnership between Result Group and IDlocate provides users with the technology to deliver best practice traceability and anti-counterfeiting, resulting in a complete turnkey solution from coding and marking equipment and control software, to printing a unique QR code on every product that will read and engage with any consumer on any handheld platform without the need for a specific reader or app. Michael's presentation will further explore IDlocate and how it allows brands to protect their products from the growing billion-dollar counterfeit trade using unique messaging technology on pack and in-market.

Case Study: The Dysphagia Cup – an innovation in accessible design – Bernadette Eriksen, Flavour Creations

Entrepreneur Bernadette Eriksen is the founder and chief executive officer of Flavour Creations, a Brisbane-based \$30 million food manufacturing company that researches and develops innovative dysphagia and nutrition products intended to support a healthy lifestyle and improve the lives of thousands living with dysphagia. Flavour Creations supplies to hospitals, residential aged care facilities and directly to consumers living in the community, both in Australia and internationally. Bernadette will share the Flavour Creations dysphagia cup case study, a revolution in the international ready-to-drink thickened beverage market focused on patient safety and accessibility, empowering individuals who have difficulty holding their own cup to feed themselves independently. Bernadette Eriksen will reveal the research and development process behind the cup, which spanned seven years and an investment of \$6 million dollars.

"Innovation is important to the success of one's business. It is a competitive environment out there, so your business needs to be innovative. An important aspect of innovation is creativity. Businesses that foster and use creativity are more likely to be innovative. Innovation may be exploiting new ideas leading to the creation of a new product, process or service. Stand out from the crowd – point of difference attracts attention. It is not just the invention of a new idea that is important, but it is actually 'bringing it to market', putting into practice and exploiting it in such a way that leads to new products, services or systems that add value or improve quality. It could even involve some technology change. Australians over the years have proved to be innovative entrepreneurs and now is no different, so get busy being innovative. The rewards will come to you!"

Prof Pierre Pienaar MSc, FAIP, CPP Education Director – Australian Institute of Packaging, Vice President Education – World Packaging Organisation

the barcode would not scan through two layers of plastic. Therefore we developed the sticker which is placed on the outside of the cylinder.


How commercially viable has the process been?

The range is commercially viable and as we build distribution and sales, further cost savings have been identified to further improve our processes.

What feedback have you had from the market and consumers?

Levodo is still in its infancy. We are building distribution in independent and specialty retailers, focusing on the South Australian and Victorian markets. As we gain traction, the strategy is to drive national distribution. We have also commenced in-store sampling programs and consumers are very positive upon trial. This reflects feedback we received at the Adelaide Royal Easter Show and Fine Foods in Melbourne.

What is your business strategy moving forward?

Levodo is a growth brand for Australian Wholefoods. Additional flavour variations are being developed to expand the range further. 

DIGITAL

In a connected world where data drives innovation, agriculture has the lowest digital adoption of all industries. Food Agility plans to change that.

Words by Food Agility CRC

In March 2017 it was announced that the Food Agility consortium will be funded with \$50 million over 10 years through the federal government's highly competitive Cooperative Research Centres (CRC) program. The Food Agility CRC aims to accelerate innovation across the agri-food value chain with digital technology. Bringing together the food industry, big technology and service providers, researchers and state and federal governments, the consortium is led by the Knowledge Economy Institute at the University of Technology Sydney (UTS), together with QUT and Curtin University. Past AIFST chair Dr Anne Astin PSM is the inaugural chair.

Becoming Australia's Next \$100 Billion Industry

Australia has enormous opportunity as a food producer. World population will grow to 9.6 billion by 2050, driving food demand. As incomes rise in emerging economies, so too does kilojoule intake and, more importantly, a switch to protein. The world is on the cusp of a huge leap in demand for higher-value food products.

China alone represents \$1 trillion, or 43 per cent of total global food growth by 2050. Monsanto estimates that decision agriculture, using data analytics and real-time recommendations for growers to drive yield improvement, is a US\$20 billion revenue opportunity globally. AgTech equity investment across the whole food value chain quadrupled to \$4.6 billion between 2013 and 2015.

To be Australia's next \$100 billion industry by 2030, we need sustained structural responses across the food value chain. The issue is not if Australia should pursue

this, but how. How do we ensure we get the best value from our food production? How do we harness our reputation for safe and sustainable food while reducing red tape? In a world where everything is digitally connected, data is a critical asset. Food is no different – yet agriculture has the lowest digital adoption of all industries.

What Will Food Agility Provide?

Food Agility has a view of the entire food value chain from a systems perspective. The CRC will identify opportunities to leverage the strengths and capabilities of its diverse partners. Food Agility CRC brings together 54 participants from food, industry, research, technology and government sectors guided by agile methods to achieve our vision.

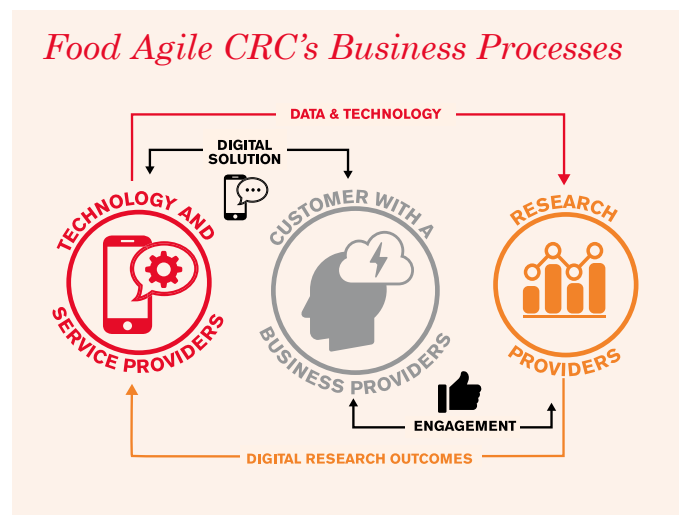
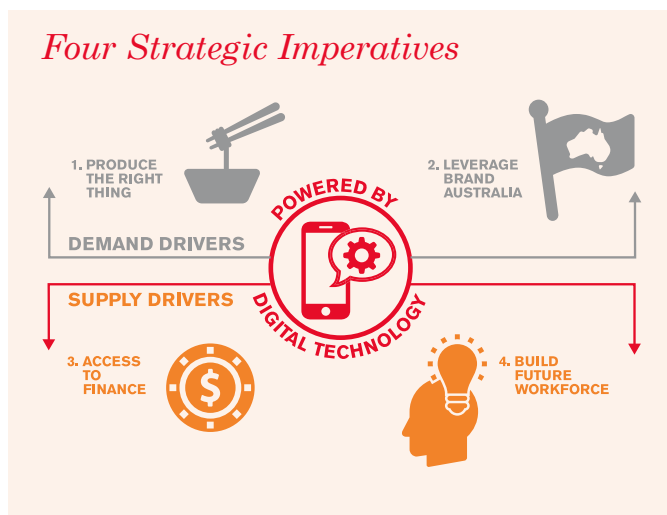
The CRC will develop and use digital technologies including models for sharing data across the food value chain so that:

- ◆ Producers can capture value by responding to rapidly changing consumer preferences
- ◆ Exceptional quality and food safety records can drive our brand
- ◆ Environmentally and socially sustainable practices are driven by data
- ◆ Reduced risks incentivise investment
- ◆ A digitally capable workforce drives productivity and higher margins
- ◆ Trans-disciplinary research solves business problems
- ◆ Industry can access social media and consumer preference market insights.

Food Agility will create new tools for export market insights. Faster insights from real-time data and predictive algorithms will



FOOD



help Australian food producers, processors and retailers to more nimbly respond to what the market wants, be more efficient in how they produce and market food, and demonstrate food safety and sustainability to customers.

Tangible industry outcomes will include digital solutions and platforms arising from applied research projects, which will contribute to higher returns to food producers, greater exports and more jobs.

Through a collaborative process, we have identified four strategic imperatives (see diagram) that will drive adoption of the digital technology in this vital sector of the economy.

The CRC will deploy digital technologies across the food value chain to reduce the cost of compliance with food safety standards, and to demonstrate the provenance, sustainability and safety of that food to enable industry to leverage Brand Australia (clean, green, safe).

We will build the human capital required to innovate in dynamically changing markets through our educational and training programme.

How can industry engage with Food Agility CRC?

Food Agility is interested in working with communities to identify challenges across the food value chain. They plan to conduct forums through their three industry network partners: the Australian Farm Institute, Food Innovation Australia Limited (FIAL) and the National Farmers' Federation.

Grower adoption of technology has traditionally been problematic. This will be addressed by the CRC by adopting agile science methodologies combined with deep engagement with the food sector, to optimise adoption of digital services. This includes:

- ◆ Strong engagement by growers in problem definition and project design so that projects address real business needs.

- ◆ Strong focus on user-led app design and adoption.
- ◆ Incremental deployment of research outcomes, such as algorithms and models, into apps used by growers and the use of app tracking metrics to provide real-time feedback to researchers on usage. This allows for rapid adaptation of the interface and research project design if required.
- ◆ Leveraging technology partners' infrastructure and capability in developing apps and rapidly deploying commercial apps.

New business models for impact

The CRC's agile development approach will enable teams to deliver on agreed milestones in iterative stages, using market validation to calibrate research and increase success of adoption.

The Food Agility CRC is currently in the very early establishment phase ahead of a July 2017 kick-off.

Young & Hungry

QLD Food Science Careers and Networking Night

Tuesday, 16 May 2017

Come along to hear about the dynamic and rapidly changing nature of the food industry from both industry and academia. This event provides an opportunity for Queensland-based young professionals to hear from a series of experts on their experience of the food industry, how their careers started and what opportunities they see in the food industry. This will be followed by a Q&A panel.

Following the careers session, a networking event will be hosted by the UQ Food Science Club on the rooftop terrace. This event offers a great opportunity to network with future food scientists. AIFST Young Professionals and members of the Community of Interest will also be on hand to say hello and make some introductions if you haven't attended an AIFST event before.

Guest speakers:

- **Matt Kowal** is CEO of PERKii, a probiotic water drink developed by scientists at the University of Queensland. His career spans previous appointments at Red Bull and Monster Energy in Europe. Matt studied Exercise Science and Physiology and had an international career in marketing before his return to Brisbane.
- **Dr Heather Shewan** completed her PhD in the rheology of biopolymer soft particle suspensions at the University of Queensland. She has since continued at UQ in postdoctoral research roles investigating the relationship between rheological properties, food structure and sensory perception of both real food products and model soft particle suspensions with industry partners.
- **Robin Sherlock** is the technical manager for DTS FACTA (Food Allergen Control Training Analysis). Robin has a background in medical laboratory science with more than 25 years' experience in clinical microbiology and food science. With extensive experience in food allergen analysis, Robin brings a broad knowledge of the food industry and analytical issues to her role at DTS and as vice president of the board of the Allergen Bureau.
- **Josh Hemelaar** is a UQ Food Technology graduate, starting his career in Quality Assurance at Earlee Products. He is now Vice President of Sales at Gelita Australia, a global supplier of collagen for the food, health and nutrition, and pharmaceutical industries. With a passion for developing value added products, Josh is involved in developing and marketing collagen based peptides for health and nutrition.

Register now via AIFST website <https://aifst.asn.au>.

AIFST Young Professionals Convention Networking Breakfast

Tuesday, 18 July 2017

Following a successful inaugural breakfast at the 49th Convention, AIFST will again be hosting a free Young Professionals Networking Breakfast at this year's Convention, which will give AIFST members aged 30 years and under the opportunity to meet their peers, hear from industry leaders and make invaluable connections. AIFST Young Professionals can register to attend the breakfast as part of their Convention registration.

AIFST offers discounted registration rates for Student and Graduate Members. To take advantage of the reduced fee and to attend the AIFST's 50th Anniversary milestone, register today via <https://aifst.asn.au>.

THE AUSTRALIAN BRAND

Our reputation for safe, high-quality food is driving markets for our food products.

Words by Dr Renee White

Patent and Trade Mark Attorney, Watermark



In the face of recent food safety scares and increasing international demand for safe, clean food, Australia has become one of the first ports of call because of its reputation for food product safety, quality and integrity. The Australian brand cache, as well as certain individual company brands, has exploded in overseas markets.

But is this a double-edge sword? Can these brand owners keep up with the demand without compromising brand integrity? And while some brand owners have gone it alone, others have created a unified front. So, should Australia's dairy, wine and horticultural industries follow in the footsteps of the red meat sector, consolidating their products under the one Australian brand?

Key drivers of demand

With our lush landscapes and crystal blue skies, there is no mistaking why there is an international appetite for Australia's clean, green products. Australia is renowned for its food safety and integrity. Assisted by organisations like the Australian Food & Grocery Council and HACCP Australia, we have impeccable regulations when it comes to the production and processing of food products. Some countries do not have such a strong regulatory framework and foreign consumers are looking to Australia to deliver on its reputation.

The Chinese infant formula contamination in 2008 drove Chinese parents beyond their own borders to safe markets like Australia, where the Infant Nutrition Council provides stringent guidelines to manufacturers of infant formulations, sparking the "white gold rush". With its gold-standard Australian pedigree, Bellamy's conquered this market with a strong value-add – being exclusively organic – which is particularly appealing to Asian consumers who are increasingly demanding these food products.

With 16 million babies born in China annually, Chinese parents are paying more than 200 per cent over the recommended retail price for a tin of Australia's best organic infant formula. A similar phenomenon was seen in Hong Kong and Singapore, although recent changes in China's food import regulations have caused great impact on dominant Australia companies in this market.

Blackmores is another overseas blockbuster that has leveraged its Australian origins. As Australia's leading natural health brand, the company's stock has increased over 1200 per cent in the past 10 years. Blackmores has also aggressively grown in the Asian market, servicing the growing middle class and their wellness needs in China, Malaysia, Thailand and Singapore. Like Bellamy's, Blackmores experienced "passive" or "grey" (daigou) market sales with foreign consumers travelling to Australia to purchase large quantities of product to re-sell in China.

What's in a brand?

While Bellamy's and Blackmores products play a vital role in their success, in the eyes of the consumer their brands and other intellectual property help maintain an internationally recognised standard. A brand is a badge of origin to distinguish the goods or services of one company from another. Trade marks form part of a company's brand and securing exclusive rights to a distinctive logo, slogan or word mark is important, especially in the fast-moving consumer food products market.

Bellamy's has easily identifiable packaging, branded with "Australian made" and "certified organic". They have trade mark filings across the world and secured registration of a suite of marks in Australia, including the slogan "Bellamy's Organic: A pure start to life".

Securing intellectual property rights to these trade marks gives Bellamy's enforceable rights against anyone who uses their trade marks without consent, ensuring they generate the economic benefit and value from their branded products.

One brand, one voice

While the success of Bellamy's has been extraordinary, Australian companies have also learnt that tackling the international market alone can be very challenging and financially detrimental. The alternative: one sector, one brand, one voice.


Pre-2015, Australian red meat was being sold internationally under 75 different brands. The resounding message was that the overseas market was "confused" and "cautious" – confused as to what products are genuinely Australian and cautious of counterfeit product. Meat & Livestock Australia (MLA) – a producer-owned, not-for-profit organisation that delivers research, development and marketing services to Australia's red meat industry – attempted to address these concerns with unified branding, "True Aussie". The trade mark comprising a

colourful map of Australia and the words "True Aussie" easily identifies the Australian origin of the red meat products. The brand is also underpinned by Australia's red meat sectors stringent food safety and traceability integrity systems.

How have individual companies fared in this unified approach to marketing?

It is a two-sided coin.

For companies that have had limited exposure to international markets, it creates new supply opportunities, increased product visibility and improved farm gate profits. For those companies that have spent years building their own successful brands overseas, they must now compete with a unified brand that has greater capacity to meet demand. Companies under a unified brand should also be mindful of the consequences of variations in product quality or a possible food counterfeiting event – these impact the whole brand and all participating companies – whereas a single brand owner has control over its own food standards and will not be tarnished by any quality problems that affect a unified brand.

So, go it alone or join forces? If as a brand owner of Australian produce you have the opportunity to move into an international market, you need to think about your branding strategy and the pros and cons of going alone or joining forces. But one thing is for sure – the "Australian brand" is trusted throughout the world. 



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The Better Sweet

While sugar has rarely been the hero it has certainly been the villain in recent times, taking the place of former food felon – fat.

Words by Sarah Hyland

General Manager Industry Services, AIFST

As we document increased rates of sugar-related disorders such as diabetes, obesity and heart disease, many experts believe that when consumers reduced their fat intakes over the fat-free era, they simply replaced it with sugar in all its forms.

Opinions vary on the impact of sugar consumption on obesity in Australia and globally. Some extreme groups and movements believe that sugar in all its forms – even naturally occurring in honey, fruits (fructose) and vegetables – should be removed from our diet. Such extreme consumption (or non-consumption) behaviour is restrictive and leaves little flexibility for the unpredictability of life. More importantly, is this kind of sugar-free existence sustainable?

Regardless, the recent anti-sugar narrative has led consumers to a love/hate relationship with sweetness and food companies on a quest to find ways to reduce sugar intake, or at least ameliorate consumer guilt for consuming sugar in the refined form of white crystalline sucrose. Of course consumers do not want to sacrifice taste and texture and there is a demand for food products with reduced sugar profiles that are still appealing from a sensory point of view.

Sweet categories are now diverging into savoury, salty or bitter-flavoured options as alternatives to a regular sugar “hit” while still delivering interesting flavour and texture profiles. Take yoghurt for example.





Food companies are taking this sweet dairy favourite back to its traditional savoury roots, relying on spices and natural vegetable flavourings and purees to deliver flavour. This trend does not draw on anything new – Greek cuisine has long had tzatziki and Indian cuisine has raita – but vegetable-based yogurts are now available and enjoying success in the US and UK. A good example is Blue Hill Yoghurt in the US, a dairy with its roots in the 19th century that now offers carrot, tomato, beetroot, parsnip and butternut squash yoghurts.

Historically, the soft drink market has relied heavily on sugar to deliver desired palatability and perceived refreshment. The emphasis on sugar reduction has consumers looking elsewhere for refreshing, flavoursome beverages that have lower sugar levels. Alternative drinks that embrace fermentation practices, such as kombucha, are enjoying popularity and are endorsed by many sugar-quitting bloggers and writers. Their perceived prebiotic qualities also add to this beverage being seen as an alternative to mainstream carbonated soft drinks or flavoured waters.


It is predicted more categories will move into other flavour profiles to meet low-sugar demands.

Many food companies have invested resources in reformulating existing flagship products to achieve an improved health star rating and a key part of this exercise is reducing the added sugar levels of the product. Kellogg's recently relaunched its iconic Nutri-Grain cereal with 17 per cent less sugar, achieving a four-star health rating.

A 2016 study conducted by Ipsos revealed that while Australians are reducing their intake of artificial sweeteners, sugary foods and drinks, we are increasingly opting for "natural" sugar substitutes such as honey. Non-caloric sweeteners such as sucralose are losing appeal and even Stevia, which is perceived to be natural, is presenting with flavour and cost problems.

2017 will see more naturally-sweetened food to achieve the desired flavour profile. These sweeteners tend to be intense – like monkfruit, a small sub-tropical melon that has been cultivated in the remote mountains of southern China for centuries. Monk fruit juice concentrate is 15-20 times sweeter than sugar and 150-200 times sweeter than sugar as a powdered extract. It is non-caloric, does not have the bitter aftertaste that is a palatability challenge for many other sweeter products, and is heat stable. Other sweet alternatives perceived to be more wholesome include coconut sugar and truvia nectar.

There are good evolutionary reasons why humans are attracted to and generally prefer sweet foods. Sweet flavours indicate an energy density that satisfies our survival instincts – very useful when supply of food was unreliable and at the mercy of many uncontrollable variables.

In modern times, however, when food is relatively plentiful and accessible to the vast majority, humans face a different challenge: food abundance and availability conflicting with our neurological evolutionary preferences. Temptation indeed! 

WHAT'S THE REAL REASON WE DON'T LIKE AIRLINE FOOD?

The importance of context, why hazelnuts taste bitter, how virtual reality will take consumer research to the next level and why some people don't like cranberry juice.

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

The Centre for Advanced Sensory Science, Deakin University

Where to do your sensory test? We know context is important. A whole fish you just caught and cooked, eaten by the ocean, would be far preferable than eating the meal on public transport. This brings into question the relevance or validity of hedonic testing in controlled lab environments, where your actual experience is far from realistic (although highly controlled).

Researchers from Wageningen University in the Netherlands investigated the liking of a meal in a laboratory setting, in a re-created aircraft environment, and during an actual flight. They provided two meal types from which to choose – pasta Bolognese and chicken curry with rice. Each meal had two variations, which were authentic as they actually came from two different airlines! The 242 participants were asked which meal they would like and were randomly allocated one of the meal variants. Consistent with prior research, all of the meals were acceptable but not overly liked. The meals were less liked in the laboratory setting than in the simulated flight or actual flight, which was also consistent with previous research showing that context is important. The magnitude of effect, however, was very small – differences between lab setting and plane were 4-6 units on a 100-point scale.

The controlled environment of a lab is ideal for maximising tested food's potential but, as the field of sensory and consumer testing evolves, the application of mobile technology is a significant boost to research and development – mobile technology will vastly improve our ability to test liking in natural settings.

Bitter Hazelnuts

Have you ever noticed a bitter, off taste in hazelnuts? Researchers in Germany have identified the chemical compound responsible for this taste, which occurs sporadically in hazelnut crops during storage time as well as in hazelnuts affected by the bug *cimiciato* (which induces tissue necrosis in the nuts, decreasing flavour quality).

The researchers utilised comparative taste-guided fractionation. Freeze-dried hazelnut samples were extracted in different solvents to provide fraction I (pentane-soluble), fraction II (acetate-extractable), and fraction III (water-soluble), as well as fraction IV (residual hazelnut material). Seventeen sensory panellists (who were trained to evaluate aqueous reference solutions once a week for ≥ 2 years) evaluated fractions I-IV as diluted to normal concentrations in water for bitterness, astringency and sweetness. Fraction IV was found to have no taste activity, and fraction II was intensely bitter with a rating of 4.0/5.

Taste Dilution Analysis (TDA) was then performed by the panel on 12 Medium Pressure LC (MPLC) subfractions of fraction II. The Taste Dilution (TD) factor for bitterness was highest for subfraction II-8. Further analysis using multiple analytical techniques identified the bitter taste compound as asadanin, a cyclic diarylheptanoid.

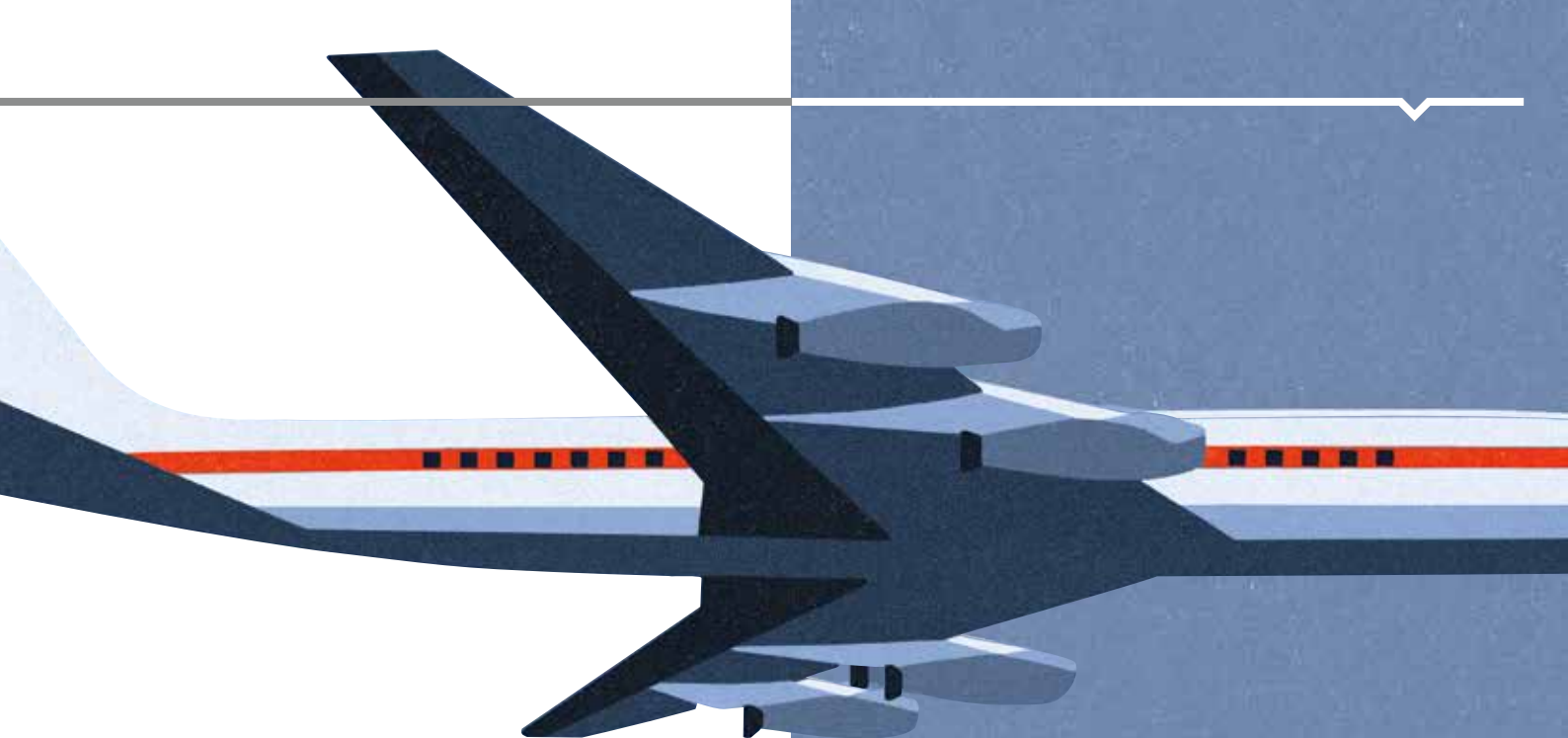
Once identified, the researchers determined the Human Taste Recognition Threshold using a two-alternative forced-choice test, to reveal an average threshold value of 13.0 $\mu\text{mol/L}$ for asadanin (average concentration at which bitterness of asadanin is detectable).

The sensory panel then analysed three variations of hazelnut: *cimiciato*-infected Ordu, Ordu from 2013, and Akçakoca from 2014. Quantitation of asadanin was found to correlate with bitterness ratings for the three hazelnut varieties, and *cimiciato*-infected Ordu had the highest bitterness rating (4.0/5) and concentration of asadanin (44.8 $\mu\text{mol/kg}$). Future research aims to understand the mechanisms of asadanin formation.

Virtual Reality

Virtual reality (VR) is gaining great momentum in consumer research. The technology can be as simple as a mobile phone in a carton box, and as complicated as immersing all senses into the VR space. VR





enables researchers to quickly manipulate and control the visual environment in which consumers behave, for example a grocery store.

Traditionally consumer food choice behaviour has been investigated in real life or with photos of products in a confined lab setting. Several researchers rightfully pointed out that these lab experiments have trouble measuring consumers' responses to the physical position of products on a shelf. Also, because of social awareness (eg "I am in a lab", "I am being watched"), lack of distraction (eg you see a photo of a product, not the clutter surrounding the product) consumers behave differently than in real life.

In theory, a VR shopping experience can overcome some of these issues because it supposedly draws people into more of a real shopping experience, causing them to behave more naturally. However, virtual reality is still artificial.

To investigate how well a real shopping experience relates to a virtual reality and a traditional lab experience (eg looking at photos of products), van Herpen and colleagues compared the three methods in a series of clever experiments. In the real shopping experience, participants were asked to shop for specific product categories – habitual purchases (eg milk), tactile and sensory purchases (eg fruit and vegetables that consumer often feel, squeeze and smell before buying) and impulse purchases (eg biscuits).

In the virtual reality condition, participants looked at three screens set up so that participants had a 180-degree view of a shopping aisle and could walk through the aisle and zoom in on products as they pleased. In the traditional experiment, participants looked at photos of aisles and products. It was found that for milk (habitual purchases), the virtual reality experiment was better able to predict the number of milk products bought in a real store. For the other product categories, the virtual reality and traditional experiments were less predictive of what happens in real life – consumers bought more products and spent more money in the lab conditions than in real life. The benefit of virtual reality over the traditional photo experiment is that it is sensitive to where products are placed on shelf, just like real in real life. A real shopping experience involves all our senses as well as the real

effort of bending over or stretching when a product is placed away from eye height. Each sense and effort is likely to contribute to the real shopping experience and should ideally be part of a virtual experience. This is an exciting area of research that will evolve quickly.

The link between astringency and bitter taste phenotype

Astringency causes drying, puckering and tightening of the oral surface and muscles surrounding the mouth. Tannins elicit astringency and are found in grapes, berries, apples, tea, chocolate and beer. Taste sensitivity to the bitter taste marker, 6-n-propylthiouracil (PROP), has been linked to differences in food preferences and eating behaviours. For instance, previous research has shown that those who are highly sensitive to PROP express a greater dislike and more frequent rejection of astringent foods compared to those less sensitive to PROP. A recent investigation aimed to determine the relationship between PROP sensitivity and astringency perception. Seventy-nine subjects rated astringency intensity and liking of a cranberry juice cocktail drink (CJC, with added sugar) with and without added tannic acid (0, 1.5 or 2.0 g/L). Saliva for protein analysis was collected at baseline and after stimulation with a tannic acid solution and a cranberry juice drink (CJ, without added sugar).

Findings indicated a gender-specific role for PROP sensitivity and perception of astringency. For instance, CJC (containing 1.5 g/L tannic acid) was found to be less astringent and liked more by male subjects less sensitive to PROP compared with males more sensitive to PROP. The same finding was not found in females. For all subjects, the salivary proteins – acid and basic proline-rich proteins – reduced after exposure to the tannic acid solution, but the same proteins together with cystatins increased after CJ exposure only in those sensitive to PROP. Acid and basic proline-rich proteins and cystatins have been linked to protective effects in the oral cavity. This study provides a base for further investigation into the role of cranberry products in oral health, particularly for those with differing sensitivities to PROP. ¹⁰

References for this article can be found on the AIFST website: <https://www.aifst.asn.au>.

PIF IS GETTING A MAKEOVER

PIF V6.0 will be officially launched at the AIFST 50th Anniversary Convention in July 2017 – demonstrations will be available onsite.

Words by Fiona Fleming

Australian Food & Grocery Council



The Product Information Form (PIF) may be the form the food industry loves to hate, but it has survived the test of time and turned nine this year. While the exact number of PIFs in circulation is unknown, a recent survey by the Australian Food & Grocery Council (AFGC) provided a rough estimate – based on responses from 141 companies, there are approximately 60,000 PIFs. This compares with around 42,000 PIFs in 2013 based on a similar survey of 74 companies.

The PIF (don't say "PIF form" because the "F" in PIF already stands for "form") is an industry-agreed questionnaire originally developed by the food industry, for the food industry, in Australia and New Zealand. The PIF provides a wide variety of information about food products and ingredients in a single document that meets the information needs for legal and regulatory compliance.

Since the PIF was last reviewed in 2012, there have been a number of changes in Australian and New Zealand laws and regulations that impact on its content. Also, the Excel platform is no longer capable of delivering the functionality expected by users or the flexibility in data management required in the 21st century. A new vision was needed to the PIF forward into the next decade of its existence.

Ta-dah! Meet PIF V6.0, or ePIF. PIF V6.0 will feature updated content in a business-to-business software solution to replace the current standalone Excel spreadsheet. It will offer businesses the opportunity to streamline the process of recording, reporting and exchanging product information via secure online portals, making it easier and faster to use. You will no longer need to retype information from supplier and customer PIFs into company systems as the information will be exchanged via an importable, industry-standard XML message. Information stored in a company's PIF portal will be searchable, enabling much better use of the information and providing a "one true source" of data.

PIF V6.0 is no longer one-size-fits-all and will feature differing levels of detail for: samples; flavours; ingredients; retail-ready products.


The content covered by PIF V6.0 retains and builds on the PIF V5.0 and includes:

- ◆ Ingredient declaration breakdown
- ◆ Country of origin to meet the new requirements, which come into effect in July 2018

- ◆ Allergen and food safety declarations – including ANZ and international allergens and information to support VITAL®
- ◆ Pre-market clearance – GM and novel foods
- ◆ Quarantine and biosecurity
- ◆ Nutrition information
- ◆ Nutrition, health and related claims
- ◆ Front of pack labelling – Health Star Rating labelling (voluntary) and Daily Intake
- ◆ Certification and endorsement information
- ◆ Shelf life
- ◆ Traceability information
- ◆ Measurement marking
- ◆ Potential safety hazards
- ◆ Packaging

The AFGC is working with several software companies to offer a range of options for online portals. Further information on the software vendors is available by searching for "PIF" on the AFGC's website: www.afgc.org.au.

PIF V6.0 will be officially launched at the AIFST 50th Anniversary Convention in July 2017 and demonstrations of the PIF portals will be available. The AFGC is also planning to conduct workshops following the July launch, which will cover PIF V6.0 content in detail and provide the opportunity to view and interact with the online portals. More details will be available on the AFGC website closer to the launch date.

The AFGC is proud to support the PIF. It has been a flagship product for the organisation, providing real benefits for members and the wider industry. PIF V6.0 takes PIF to a new level, ensuring it will continue to be a valuable tool for the industry. The AFGC would like to acknowledge the members of the PIF Review Working Group who have provided invaluable guidance and support throughout the review project. 

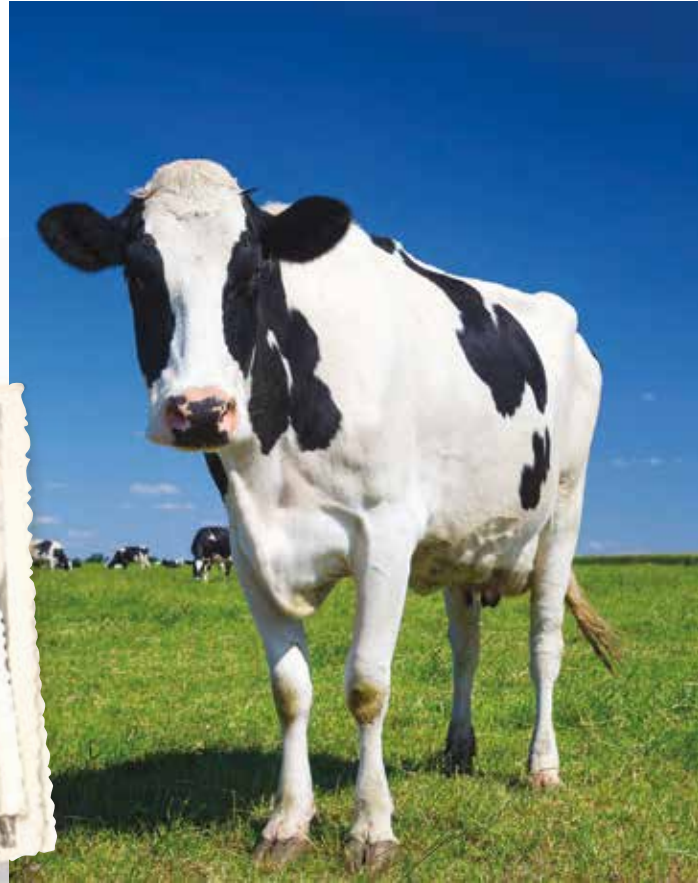
If you have any questions about the PIF, we'd like to hear from you. Please drop an email to the dedicated PIF email inbox, PIF@afgc.org.au, or consider joining the PIF email group by dropping a line to this email address. References for this article can be found on the AIFST website: <https://www.aifst.asn.au>.

PREDICTIVE MICROBIOLOGY UNDERPINS ARTISANAL CHEESEMAKING

An innovative new tool is now available.

Words by Deon Mahoney

Chief Scientist, Dairy Food Safety Victoria



In 2015, artisan cheesemakers across Australia applauded changes to the *Australia New Zealand Food Standards Code* that permitted dairy manufacturers to produce and sell cheese made from unpasteurised (raw) milk.


The amended Standard (4.2.4) established the need for more stringent control over the production, transport and processing of raw milk to ensure the risk to public health was minimised. To be approved to manufacture a raw milk cheese, cheesemakers need to demonstrate to regulators that the proposed process and product complies with three qualifying criteria: acceptable raw milk microbiological quality; no net increase in pathogens that may have been present in the raw milk; and the final cheese will not support the growth of pathogenic bacteria.

To help cheesemakers understand how to meet these criteria and be approved to produce and sell a raw milk cheese, Dairy Food Safety Victoria, Food Standards Australia New Zealand, and the New South Wales Food Authority collaborated with Associate Professor Tom Ross and colleagues at the University of Tasmania to develop the raw milk cheese decision support tool.

A world first, the decision support tool provides cheesemakers with access to the best available science to help determine if their raw milk cheese satisfies the food safety objectives. The

tool is based on a two-year research program involving pathogen challenge trials on 40 batches of cheese to enable a detailed analysis of the physicochemical changes in those cheeses, as well as changes in the levels of pathogens, during the cheesemaking and ripening process. The data demonstrated the reliability of existing predictive models for pathogen responses during cheesemaking and those models now underpin the science-based decisions provided by the tool.

Users of the decision support tool enter data on the physicochemical properties of their proposed cheese, and monitoring data on raw milk quality, temperatures along the chain, and pH during cheesemaking right through to maturation.

The tool performs calculations that consider the growth, survival, and expected inactivation of pathogens potentially present in raw milk and raw milk cheeses derived from raw milk. The models used enable the tool to provide an indication about whether the cheese is likely to meet the Standard and be safe for human consumption. The next step is to then make the cheese and verify that the qualifying criteria can be achieved. 

The tool software is now available to download from the University of Tasmania website at www.foodsafetycentre.com.au/RMCtool.php.

DEMYSTIFYING CARBS

Long the enemy of the body-conscious, consumers are beginning to understand the difference between carbohydrates and their value in a balanced diet.

Words by Hayfa Salman, Peter Kolodziej, Michelle Broom and Vicky Solah

Australian Export Grains Innovation Centre, Grains & Legumes Nutrition Council and Curtin University

Consumers have long been interested in reducing carbohydrates in their diets, evidenced by the long-standing popularity of low-carb diets and the rise of paleo diets. But a recent shift has shown a greater understanding of their nutritional value and role in the prevention and management of diet-related disease.

In the last six months online articles such as *“Running Food: The 10 Best Carbohydrates for Marathon Runners”* (Financial Review), *“Are Wraps Really Healthier than Sandwiches?”* (GQ), *“The Real Reason Why You Don’t Lose Weight on the Same Diet as Your Friend”* (The Sydney Morning Herald), and *“Nutritional Characterisation of Carbohydrates”* (Food Safety), are examples of the many stories on carbohydrates that create a more complex message.

A common theme is emerging – reduce serving size, calories and available carbohydrates, and increase fibre – demonstrating a more complex message that some carbs are good (fibre, resistant starch), while others should to be limited (available carbohydrates).

It is important for the food industry to respond to consumer interest in different forms of carbohydrate by providing consistent, accurate information on pack, particularly for available carbohydrate content.

Health Benefits of Carbohydrates

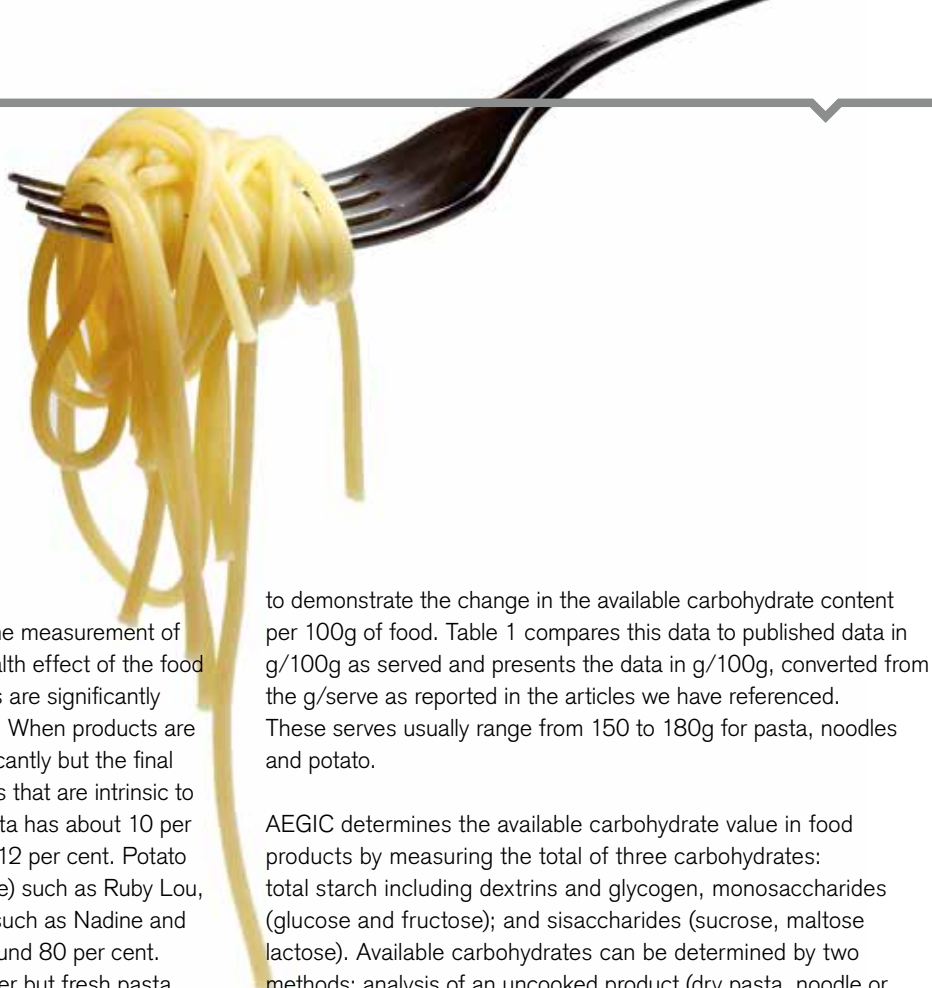
The role of carbohydrates in human health is complex as different forms of carbohydrate have vastly different effects on the body. While the mainstream media may still be warning consumers to limit available carbohydrate intake, it is important to remember the benefits. Last year, the “Importance of dietary carbohydrate in human evolution” was discussed in *The Quarterly Review of Biology* by a group of scientists led by Karen Hardy. They reminded us that humans require a reliable source of carbohydrate (available carbohydrate) to support normal brain, kidney, red blood cell and reproductive function.

University of Sydney Researcher Associate Professor Holmes explains that high-carb, low-protein diets are linked to longevity, but getting the balance between carbs and proteins is important as there is a “tipping point” across all diets related to nitrogen balance in the gut, which plays an important part in the health of gut bacteria (and in turn has a knock-on effect on our general health). This tipping point varies between individuals making it difficult to determine a one-size-fits all ratio of carbs to protein. But Holmes stresses the importance of eating complex carbohydrates from plants to “mop up” excess nitrogen from a high-protein diet. If the balance is not right, an individual’s good gut bacteria are affected and good gut bacteria love fibre.

In the *Food Safety* article (Englyst, 2016) we learn available carbohydrates are digested and absorbed in the small intestine to provide energy and include rapidly digested glucose and starch. Slowly digested starch is still an available carbohydrate, but the slow release of carbohydrates is reported to be linked to health benefits. Resistant carbohydrates, which are non-starch based, include whole or pieces of plant material such as fruit, vegetables and cereal. Non-starch polysaccharides are resistant to digestion, can be assigned the label “fibre”, and those that reach the large intestine are available for fermentation by those good gut bacteria. There are also many extracted or synthesised resistant carbohydrates manufactured by the food industry.

The digestibility of carbohydrates and starch impacts blood glucose and metabolism, so understanding carbohydrate type and its impact is important for development of healthier products. Ek, Brand-Miller and Copeland (2012) tell us the main food factors that lower postprandial glycaemia act by affecting the rate of gastric emptying and/or the rate of carbohydrate digestion and absorption. This provides an opportunity for food manufacturers to consider carbohydrate characteristics such as starch digestibility and develop foods with added health benefits.





Measuring Carbohydrate Content


There is a need for a consistent approach to the measurement of carbohydrate content so that it reflects the health effect of the food as eaten. For example, available carbohydrates are significantly affected by the total water content of the food. When products are boiled in water, water content increases significantly but the final water content depends on many characteristics that are intrinsic to the raw product. Before it is cooked, dried pasta has about 10 per cent water whereas dry white rice has around 12 per cent. Potato is classified as mealy (high starch, low moisture) such as Ruby Lou, or waxy (high moisture content, lower starch) such as Nadine and Carisma. Raw potato is high in moisture at around 80 per cent. Fresh wheat flour noodles are 34 per cent water but fresh pasta is around 30 per cent water. Once cooked, dried pasta, rice and noodles are very high in water at 60-75 per cent.

Characteristics that influence water uptake include: particle size (such as fineness of the flour); starch granule size (for noodles, pasta and potato); and starch composition (amylose and amylopectin ratio). Wheat starch is about 25 per cent amylose, but durum wheat starch is about 26 per cent amylose. Potato ranges from about 20-30 per cent amylose content and Carisma potato has an amylose content of around 25 per cent and low-swelling starch. Water uptake usually decreases as amylose content increases. The temperature and time of boiling also affects final water content. So, it is difficult to compare available carbohydrates if we don't know their original characteristics, cooking time and temperature, method of cooking and method of preparation.

The Australian Export Grains Innovation Centre (AEGIC), Sydney Analytical and Technical Services, undertook an analysis of pasta, rice, noodles, quinoa and potato samples, cooked and uncooked,

to demonstrate the change in the available carbohydrate content per 100g of food. Table 1 compares this data to published data in g/100g as served and presents the data in g/100g, converted from the g/serve as reported in the articles we have referenced. These serves usually range from 150 to 180g for pasta, noodles and potato.

AEGIC determines the available carbohydrate value in food products by measuring the total of three carbohydrates: total starch including dextrans and glycogen, monosaccharides (glucose and fructose); and disaccharides (sucrose, maltose lactose). Available carbohydrates can be determined by two methods: analysis of an uncooked product (dry pasta, noodle or raw potato) and then calculating the available carbohydrates in the product when cooked (method 1); or analysis of a cooked product (method 2). Most products give similar results using either method (Table 1), but analysis of available carbohydrates in low GI rice and Carisma potato resulted in different values. Method 1 gave a higher available carbohydrate content in the Carisma potato than method 2. In Doongara rice the result was reversed. This difference may be related to the amylose content or different starch granule morphology, but more research is needed to understand why there is a difference in the low GI products.

Correct analysis and reporting of available carbohydrates will help the food industry provide consumers with consistent information so they can make more informed dietary choices. The industry should test their products and be careful not to rely on published data to ensure an accurate measure of available carbohydrates. 

References for this article can be found on the AIFST website: <https://www.aifst.asn.au>.

Table 1: Available carbohydrate (g/100g) of cooked product

	Low GI White Rice (SunRice Doongara)	Medium Grain Rice (Aust Calrose)	White Quinoa (Lotus Royal)	White Quinoa (Sandhurst)	Spaghetti (San Remo)	Ramen Noodles (Hakubaku Organic)	Udon Noodles (Hakubaku Organic)	Carisma potato	Nadine Potato
Available Carb (from cooked) g/100g from AEGIC analysis	20.4	24.4	24.4	19.2	29.9	24.3	24.8	9.4	11.1
Available Carb (from uncooked) g/100g from AEGIC analysis	16.0	24.8	23.9	19.8	30.5	25.2	25.0	12.0	12.0
Available Carb from published articles g/100g*	26-28.6	28.7	17.3		24.4-28.6	25.2	19.5-26.7	10.5	14.4-17.3

*From papers by Atkinson et al 2008, Ek et al 2012, and Yasui 2015

What Do **Simplot Australia** and **Australian Lemon Myrtle** Have in Common?

Funding from FIAL is backing the next generation of food industry innovators.

Three national projects have received more than \$400,000 in funding over two years from Food Innovation Australia Limited (FIAL) via the FIAL Project Fund. Funding of these projects will develop innovative solutions to critical challenges such as obesity and increase market opportunities through the development of novel ingredients and processing technologies.

The Project Fund is highly competitive and provides matched funding for innovation projects that encourage collaboration between small and large businesses and improve the productivity and competitiveness of Australia's food and agribusiness sector. It allows like-minded businesses to minimise the risk of investing in innovation and share the rewards.

An industry panel awarded funding to three projects from Logio, Simplot Australia and Lemon Myrtle Products. These projects have the potential to deliver more than \$100 million in additional sales for Australia.

Logio will develop an automated, rapid test for determining the glycaemic index (GI) of a food. Outcomes from the work will allow lower GI foods to be developed with greater speed and at reduced cost, helping to address the major challenges of diabetes in Australia and worldwide.

Simplot Australia will provide a proof of concept for the application of a novel technology – Microwave Assisted Thermal Sterilisation

(MATS) – that reduces time, cost and energy of making ready-to-eat meals. This technology also has the potential of extending the ready meal shelf-life.

A consortium, led by Australian Lemon Myrtle Products, has identified plant extracts as an effective food preservative. Their funding will be used to research safe and scalable delivery streams of food preservatives using lemon myrtle. AIFST talked with the company to find out more.

How is the plant extract lemon myrtle useful and effective as a food preservative?

Lemon and anise myrtle have great potential as functional ingredients. They contain very high levels of antioxidants as well as possessing an antioxidant profile that is varied, comprising appreciable amounts of the potent antioxidant ellagic acid and its derivatives, other phenolics such as chlorogenic acid, carotenoids and the equally potent vitamin E. If this unique combination of antioxidants can be maintained during storage and processing, novel opportunities for developing effective "natural" antioxidants may be realised.

The results of antimicrobial assays indicate that plant products utilising both lemon and anise myrtle have great potential as antiseptics or surface disinfectants as well as a role in the food industry for preservation and prevention of microbial spoilage. Both the antioxidant and antimicrobial properties could make these plant extracts effective preservatives in the food and beverage industry.

How does it work?

Evaluation and testing of the various blends and measuring the efficacy as an antioxidant and antimicrobial blend against selected microorganisms and lipid oxidation trials.

What production processes are involved?

A number of different processes starting from plant selection, to harvesting techniques, separation and drying technologies, and extraction technologies. Then of course a series of processes depending on which delivery system is used.

What about the toxicity/safety aspect?

The main chemical component in the lemon myrtle essential oil is citral (>90%). As reported in the World Health Additives report (JECFA 52, 2004) the Acceptable Daily Intake (ADI) for citral is 0–0.5 mg/kg bw (body weight). The committee concluded that there were no safety concerns with the low levels of intake arising from their use as flavouring agents. Due to the flavour of the lemon myrtle extract/essential oil, synergistic blends with other plant extracts and novel delivery systems will be developed to minimise the flavour impact in food systems when used as a natural preservative. This will ensure that the low levels used will not exceed the ADI. Both these plants are already being used in the food industry as flavourings. Their inclusion would have the added benefit as “natural” antimicrobials and food preservatives as well as being a good source of other health-promoting bioactives and nutrients. The virtual absence of antinutrients when used as flavourings should enhance these opportunities.

In 2001, a comprehensive study (Hegarty et al. 2001) examined existing chemical and toxicological information on major Australian native plant foods (including lemon and anise myrtle). Based on this assessment, further chemical analyses were conducted on selected bushfood samples provided by commercial growers and processors. For our purposes, dried leaves of lemon and anise myrtle were investigated. Antinutrients such as oxalates, saponins, cyanogens and alkaloids were measured. No traces of saponins or cyanogenic glycosides were detected in the dried leaves but significant amounts of oxalic acid (1–2 g/100g) were detected in both lemon and anise myrtle leaves. The authors compared these levels with those found in commercial spinach and rhubarb (0.5 g/100g). Conceding that the levels in native plant leaves were considerably higher, because they would be used as flavourings and not consumed in the same quantities as leafy vegetables, the authors suggested the different usage would limit the levels of oxalates ingested.

How can you achieve economies of scale in production?

There are a few key items when it comes to achieving economies of scale:

- ◆ Research – reviewing the available technology options from all corners of the globe

- ◆ Selection and implementation – identifying and testing the right choices
- ◆ Partnerships – finally, we need to work with the right partners; you can't do it all alone!

Up to this point we have achieved great efficiency in our core business by constantly reviewing the technology options available to us. We are investing in new systems for our industry; systems that have not been used in our industry previously. We are at the forefront of technological innovation and it is this culture of technological innovation, which of course you don't always get right, that enables us to achieve economies of scale.

What are the differences/advantages over other plant-based food preservatives?


Lemon myrtle extract/essential oil has broad spectrum antimicrobial activity and this is an advantage – it is promising for use as a natural food preservative in both food and beverage systems where spoilage bacteria and yeast are a challenge. Lemon myrtle has the potential to be used as a preservative in dairy products due to its neutral pH – lemon myrtle essential oil is currently used as a lemon flavouring in dairy-based products to prevent curdling associated with the acidity of lemon fruits.

The advantage over some plant-based food preservatives is that lemon myrtle extract can be used as both an anti-bacterial and anti-fungal agent. The only challenge is addressing the flavour it imparts to the food. This project will look at ways of overcoming this issue.

How will FIAL funding assist you in research and development?

FIAL funding is vitally important to a business such as ours. We have many different innovation ideas and of course you cannot chase them all. We can't do all we need to do without great partners. Finding a funding partner to share costs with us is of course very helpful, but someone like FIAL, who has a strategic intent that aligns with ours, is more important.

What are your desired outcomes?

A definitive path to market for natural lemon/anise myrtle-based food preservatives and a unique, commercially appropriate, universal, multi-functional food additive developed from lemon and anise myrtle that enhances human health and vitality. 

FIAL is calling for industry-led consortia to apply for funding that focuses on building the capability of the food and agribusiness sector or addresses challenges impeding its competitiveness. For more information visit: application.fial.com.au or contact General Manager – Marketing and Communications, Michaela Chanmugam: michaela.chanmugam@fial.com.au

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The innovative Taiyo Kakagu patented iron powder Sunactive® FE P-80E continues to gain acceptance around the world in food, beverage and healthcare segments. This unique ingredient meets the test for stability, taste, safety and, even more importantly, bio-availability. Not only does it disperse normally insoluble iron into liquids without precipitation, it is also stable against heat, salt, pH and oxidation. Unlike most other forms of iron it leaves no unpleasant “rusty nail” taste in the mouth. It is also colour stable and is gentle to the human digestive system.

Stability issues with iron have long been recognised by industry but the patented Taiyo product offers the additional benefit of providing a way to tailor the way iron is actually absorbed by the human body. The unique way the iron particles are coated enables them to bypass the stomach and be largely absorbed by the small intestine. The release of conventional iron in the stomach can often interfere with the absorption of other minerals and has additional well-known side effects which can include cramping and constipation. According to the World Health Organisation (WHO), iron deficiency is perhaps the most common micro-nutrient missing from the leading industrialised countries’ diets.

Iron can be a difficult ingredient to work with to incorporate into food and beverages as it reacts with a wide selection of elements beyond oxygen. This is now a thing of the past as Sunactive® FE P-80E makes iron fortification easy. It is ideal for use in juices, drinks, sports waters as well as infant and vitamin supplements and a wide range of dairy products including cheese.

Sunactive® FE P-80E has an important role to play in improving the diets of most consumer groups, young and old. 

For more information visit www.ingred-res.com.au

EATING HUMBLE PIE

Record sales and new research show that the classic Aussie meat pie is more popular than ever in Australia.

This year we celebrate the 70th anniversary of the Aussie meat pie – which was “invented” in 1947 by L.T. McClure, a small Bendigo bakery. Pie maker Les McClure started making mutton pies and one day asked Bendigo woman Joyce Griffin, “What do you think when you think of these pies?”, to which she replied, “Four and twenty blackbirds”.

The Four’N Twenty brand was sold by McClure to Peters Ice Cream in 1960 and to various other companies including Simplot, before it was bought by Australian company Patties in 2003. The recipe hardly changed in this time, with the same unique mix of mutton and spices.

Almost one out of two Australian adults enjoys meat pies and the number is growing, just like the sales of Australia’s biggest pie brand, Four’N Twenty. In 2016, Four’N Twenty sold an amazing 21 million pies, pasties and sausage rolls. That’s more than 57,000 consumed each day! A treasured part of Aussie childhood, 47.5 per cent of Australians over the age 14 are still wolfing down a hot pie from the bakery, corner shop, or at the footy. The most popular place for a pie in country towns is the local bakery, with 51 per cent of rural Aussies enjoying the iconic snack. Nearly half of city slickers – 45.6 per cent – are pie-lovers.

Few would be surprised to learn that pie fans are also popular supporters of the three main football codes – AFL, NRL and A-League. Roy Morgan data confirms that footy and pies are a match made in heaven, with supporters’ level of involvement in their chosen code having a bearing on their pie penchant.

Meat pies are deemed the perfect snack because of taste, value and convenience. But as pie companies concentrate on flavour innovation and quality, the plain meat pie has evolved and become more sophisticated with different fillings including game meats, seafood, and vegetables. ©



Don't Be The Odd One Out...



JOIN AIFST TODAY!

The Australian Institute of Food Science & Technology (AIFST) is the only national membership organisation providing an independent voice and network for Australia's food industry professionals.

AIFST provides a suite of services for our members and the industry to expand knowledge and networks, advancing Australia's position as a sustainable, world-leading food industry.

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8. Free 12-month subscription to Inside FMCG digital magazine.
9. The opportunity to apply for key industry awards.
10. Access to the National Salary Survey for the Australian food industry to assist salary benchmarking against peers.

Visit www.aifst.asn.au or phone 02 9394 8650 to join today!