

food

SEPTEMBER/OCTOBER 2017

australia



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IN THE FOOD
REVOLUTION**

INSIDE

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IS CARBOHYDRATE A TASTE?
ALLERGENS AND OVER-LABELLING



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FOOD FOR THOUGHT

Welcome to the September/October issue of *food australia*!

As readers are aware, the Institute celebrated its milestone 50th Anniversary Convention and 50th Anniversary of the Institute during July. In this issue we provide a comprehensive wrap-up from the Convention on pages 22-27 and some highlights from the Anniversary Dinner on page 7.

During the Convention, AIFST was pleased to recognise members' excellence as part of the annual AIFST Awards. Read more about our 2017 Award recipients on pages 8-9. AIFST is pleased to announce two new initiatives. An AIFST Pilot Mentoring Program was launched at the Convention with the Institute running a pilot program through until the end of 2017 to refine a full scale program for launch to all members in 2018. Information on the Pilot Program can be found on page 13.

The Australian Food Industry Future Fund initiative was announced by AIFST Chair Peter Schutz at the 50th Anniversary Gala Dinner. The Future Fund is a tax-deductible AIFST Foundation providing skill and capability building opportunities to future food industry leaders. The initiative will be launched later in 2017 and you can read more on page 6.

In this issue we hear from some of our Institute Young Professionals who recently had the opportunity to participate on behalf of AIFST in an IFT Student Association Competition held in Las Vegas during the 2017 IFT Expo. Read more on our up-and-coming Institute leaders in the Young Professionals section of *food australia* on page 41.

The changing nature of allergens continues to be a topic of interest for the food industry. This issue we provide an update and overview on allergens on pages 28-31 and the recent changes to allergen labelling for lupins on pages 42-43.

I hope you enjoy this issue of *food australia*! 🍷

GEORGIE ALEY

AIFST CEO



ALL ABOUT GRAINS

The Grains & Legumes Nutrition Council (GLNC) has just completed the 2017 Grains and Legumes Consumption and Attitudinal Study tracking Australian consumption of grain-based foods and legumes. The last study was conducted in 2014.

The big takeaways are that fewer Australians are limiting their consumption of grains in 2017 than in 2014, we are eating more legumes (baked beans, legume soups and dips are the most popular sources), but sadly we are eating less than half the recommended amount of whole grains at under two serves a day! And it would seem that half the population is unclear about what is or is not a whole grain. Perhaps this is a reflection of the fact that more than ever people are looking to family and friends for nutrition advice rather than health professionals.

Australians are eating six serves of grain foods a day, but almost two serves are from non-core grain foods such as pizza, pastries and cakes! Our love affair with bread continues, with breads such as pita, wraps and tortillas gaining in popularity. Snacking is on the rise, with crispbreads, popcorn and snack bars being eaten across the day.

A full report will be run in the November/December 2017 issue of *food australia*. In the meantime, let's take a first look at the numbers.

47% of Australians are limiting grain foods in 2017 compared to **60%** in 2014.



28% of Australians are eating legumes in 2017 compared to **20%** in 2011.

Australians are eating **<50%** of the recommended amount of whole grains.

82% of Australians eat bread every day

70% of Australians eat breakfast cereals at least once a week.



50% of Australians are unsure what a whole grain is!

Soy and oat milk consumption has doubled from **6%** in 2014 to **13%** in 2017.

Consumption of porridge oats with added fruit or flavour has doubled from **5%** in 2014 to **11%** in 2017.

74% of Australians don't know that white bread contains fibre.

AIFST ANNOUNCES AUSTRALIAN FOOD INDUSTRY FUTURE FUND INITIATIVE

During the Institute's celebration of its milestone anniversary at the 50th Anniversary Gala Dinner on the evening of Tuesday, 18 July 2017, a future-focused initiative was announced.

AIFST Chair Peter Schutz recognised the vision of the inaugural Institute leaders in establishing AIFST in 1967, which provided a substantial legacy for the profession and one which that the AIFST and its members continue to carry the torch.

Peter outlined the need to look to the future and the next 50 years, in particular around how we support our younger members and industry leaders starting, who are starting their careers today but will guide the Institute and industry of tomorrow.

Peter also announced the establishment of the Australian Food Industry Future Fund, an AIFST Foundation and Trust. The Future Fund will provide annual grant and scholarship opportunities to support skill and capability building of our future industry and Institute leaders and ensure that the Australian food industry attracts and retains the best talent. As a tax deductible food industry foundation, the Australian Food Industry Future Fund allows companies and individuals who have a passion for driving a sustainable and competitive Australian food industry to directly invest in the industry leaders of tomorrow. The fund will launch later this year.

AIFST is taking a leadership role in future-proofing the industry and invite interested companies and individuals to join in this pursuit. Companies and individuals interested in contributing to the Future Fund are invited to contact AIFST CEO Georgie Aley on 02 9394 8650 or via aifst@aifst.com.au.

2017 AIFST AGM RESULTS

The 2017 AIFST Annual General Meeting (AGM) was held at the International Convention Centre in Sydney, co-located with the AIFST 50th Anniversary Convention, on Tuesday, 18 July 2017.

At the Meeting, Dr Thomas (Tom) Lewis and Stewart Eddie retired as directors by rotation. AIFST Chair Peter Schutz thanked Tom and Stewart for their tireless efforts over the course of the last few years.

The results of the Ordinary Resolutions were:

- Fiona Fleming was re-appointed as a director for a three-year term.
- Dr Steven Lapidge was appointed a director of the company for a three-year term.
- Trent Hagland was appointed a director of the company for a three-year term.
- Dr Chris Downs was appointed a director of the company for a one-year term.
- Walker Wayland NSW was appointed Auditor of the company.

During the AGM, AIFST Chair Peter Schutz encouraged members to continue to engage with the Institute, welcoming feedback and encouraging members with any questions about AIFST or their membership to contact the AIFST Management Team at any time. Peter reaffirmed the Board and staff's commitment to continuing to evolve the Institute's offerings and working towards achieving the goals set-out in the 2016-2018 Strategic Plan.

AIFST CELEBRATES 50 YEARS

More than 350 members and guests celebrated the historic 50th milestone of the Institute at an elegant gala evening at Doltone House, Jones Bay Wharf, Pyrmont.

The evening honoured the past with a moving video showing the humble beginnings of AIFST as the first international section of the US-based Institute of Food Technologists (IFT) before incorporating in 1967 and the subsequent decades of service to its members and towards the development and advancement of the Australian food industry.

With 14 of the Institute's 24 Past Presidents in attendance, AIFST's current and 25th President and Chair Peter Schutz formally recognised the contribution of the Past Presidents to the leadership and stewardship of the Institute. Many of the Institute's Fellow Members were also in attendance and their services to AIFST and the industry were also recognised.

A highlight of the 50th Anniversary celebrations was the attendance and involvement of the family of the Institute's Foundation and first President, JR Vickery. JR Vickery was a visionary leader and a passionate food science advocate who drove the industry forward during his time as head of the CSIRO Division of Food Research between 1940 and 1967 and AIFST President from 1967 to 1969. To celebrate the 50th year of the Institute and the 50th year since JR Vickery was appointed President, his well-known portrait was gifted to the National Portrait Gallery.

During the dinner, his children – Jim Vickery, Robert Vickery and Marion Willis – formally gifted a well-known painting of JR Vickery to the National Portrait Gallery. Also present at the gifting presentation

were Angus Trumble, Director of the National Portrait Gallery, Martin Cole, Deputy Director of CSIRO's Agriculture and Food Division, and AIFST Chair Peter Schutz.

AIFST also announced the launch of the Australian Food Industry Future Fund, an AIFST Foundation to ensure to support industry leaders of tomorrow with ongoing skill and capability building opportunities.

Guest finished the evening with plenty of dancing and catching up with Institute friends. The 50th Anniversary Gala Dinner cemented the Institute's role in the Australian food industry over the last 50 years and looked to the future to ensure both the industry and Institute have strong leadership for tomorrow.



Gift of the original JR Vickery Portrait to National Portrait Gallery with three members of the Vickery family, AIFST's Peter Schutz, CSIRO's Martin Cole and director of the National Portrait Gallery, Angus Trumble.



AIFST Past Presidents enjoy celebrating the 50th Anniversary of the Institute.



AIFST elevated seven members to Fellows of the Institute.

AIFST Recognises Members' Excellence at the AIFST 50th Anniversary Convention

The annual Australian Institute of Food Science & Technology (AIFST) Awards were announced at the AIFST 50th Anniversary Convention on 17 July 2017.

These awards recognise the outstanding achievements of AIFST members and the contributions they have made to the Institute and the Australian food industry. They are also an opportunity to acknowledge the newly appointed Fellow members.

First to be awarded was the AIFST Poster Competition in conjunction with partner Agilent Technologies. The winner recognised as the creator of the most outstanding poster was Jessica Heffernan, CSIRO, with a poster investigating consumption patterns and satiety to support food product development.

The Malcolm Bird Award honours the fifth President of the Institute and is awarded to young AIFST members who demonstrate academic achievement, leadership and integrity. The two finalists, Anita Pax and Julia Low, both embody the values the award represents. The winner was Julia Low for her investigation into the association between sweet taste function, oral complex carbohydrate sensitivity, liking and consumption of ad libitum sweet and complex carbohydrate milkshakes.

The AIFST Sensory Award, sponsored by Sensory Solutions, honours Anthony (Tony) Williams, a pioneer of the Sensory Research Industry. This award recognises a young AIFST member who demonstrates academic achievement, interest, enthusiasm, and integrity in Sensory Research. Finalists Lu Yu and Soumi Paul Mukhopadhyay gave outstanding presentations, with Lu Yu presented with the award for her paper on descriptive sensory analysis of high pressure, cooked rice.

The Student Product Development Competition is an exciting AIFST initiative to give student and graduate members an opportunity to experience a “real-life” new product development project and gain exposure to industry experts, peers and future employers. Several partners support the competition, in particular Retail Food Group whose generous support is integral to the competition and includes a work placement opportunity for the winning team. Other 2017 competition partners were ADM, Simplot, Sanitarium, Murray Goulburn and the Department of Industry, Innovation and Science. All participating teams showed great creativity, passion and rose to the challenge of developing a “future food”. The winning team was Tara McCormick, Gina Absalom and Brittany Andreola from Deakin University for their new product *The Nutcracker*.

The AIFST Food Innovation Award recognises a company or organisation for a significant new development in a process, product, ingredient, equipment or package that has achieved successful commercial application in the Australian food industry. Tasmania’s Westhaven and Naturale Pty Ltd were joint winners for their production of the world’s first omega-3 yoghurt from cow’s milk.

Westhaven and Naturale demonstrated outstanding commitment, ingenuity and innovation, as well as excellence in process engineering and production of specialised feed supplements, dairy husbandry and yoghurt manufacture to create a healthy omega-3 natural yoghurt for consumers, establishing a pathway for other healthy functional dairy foods to be produced.

The Keith Farrer Award of Merit, named after Dr Keith Farrer, an outstanding food scientist and President of AIFST from in 1969-1971, acknowledges a member who has advanced the industry and made significant contributions to AIFST. The 2017 recipient of this award was Associate Professor Mark Turner, a long-standing advocate of both AIFST and the profession with a great passion for food science and technology. Professor Turner has been the chief investigator on more than \$12 million of research projects and published over 64 papers. Further contributions to the industry and AIFST include launching the University of Queensland’s Food Science Club, providing input to past Conventions, and actively supporting and encouraging his students to participate in AIFST events including Summer School, Conventions, awards and competitions.



AIFST Malcolm Bird Award Winner Julia Low with AIFST Chair Peter Schutz.



2017 AIFST Student Product Development Competition winners from Deakin University with Competition Partners and AIFST Chair Peter Schutz.



AIFST Food Innovation Award Winners. Tasmania’s Westhaven and Naturale Aus, with AIFST Chair Peter Schutz.

Recognising an individual that has made an outstanding contribution to the institute during his almost 20 years of membership, the 2017 AIFST President’s Award went to Jayantha (Jay) Sellahewa. With an international career spanning nearly 40 years, Jay made a great mark on the industry due to a lengthy list of projects and initiatives he supported over many years and his work with CSIRO. While now retired, Jay continues to contribute and was instrumental in the establishment of a new mentoring pilot program launched at the Convention.

AIFST elevated seven members to Fellows of the Institute in recognition of their outstanding service to AIFST and contributions to the food science and technology profession. The newly appointed Fellows are: Dr Anne Astin, Tom Debney, Professor Mike Gidley, Cheryl Hughes, Dr Tom Lewis, Dr Janet Paterson and Cathy Moir.

The awards are an opportunity to recognise the excellence and contributions of members, as well as inspire others to achieve great things in the industry. AIFST encourages members to keep an eye out for the opening of entries for the 2018 Awards.



SCIENCE ALIVE! SOUTH AUSTRALIA 2017

Science Alive! in partnership with National Science Week has been running for over 12 years as part of Australia's annual celebration of science and technology. Held at Adelaide Showground, it showcases science for students and children in a relatable and fun way.

The South Australian Community of Interest Committee hosted an AIFST area that ran practical and interactive demonstrations related to food science, including sensory perceptions and flavour analysis. AIFST member Rai Peradka, who has been a pivotal coordinator of this activity for many years, said record numbers of visitors came to the stand and that it was a huge success.

Thanks to the student volunteers Sidrah, Brittany, Vincy, Shanel, Tian, Jan, Lauren, Krystle, Jana, Yi and Mitchell who gave up their weekend to take part, and the SA Community of Interest Committee members Rai, Millicent, Despina and Tammy who also attended and coordinated the efforts!



SA Community of Interest Committee member Despina at Science Alive!

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CONVENTION REFLECTIONS

Words by Lena Pennacchia

As a mature age student, with a background in welfare before moving to the food industry as a trained cook, I commenced my studies in food technology at William Angliss Institute. I attended the AIFST-organised careers evening at William Angliss Institute in June, where I met Shona Gawel.

We discussed the Future of Food 50th Anniversary Convention and the Humanitarian Food Science and Technology Symposium. It sounded interesting but I didn't know anyone. Shona encouraged me to attend and also invited me to spend a day at the AIFST office if I came to Sydney. I was convinced – I was in!

This was a high-profile event where the “crème de la crème” of the food community gathered. What an opportunity to meet people and learn more about how it all worked. I was initially humbled by the presence of the many learned and experienced people who attended the convention and asked myself “*Do I deserve to be here?*” It challenged me on a professional level, talking to so many different people and building up connections.

I gained many insights into the varied facets of this industry and a realisation that some of the content and terminology reinforced the value of my study-based knowledge and general life experience. Attending the convention has allowed me to value my own experiences and to apply these with a food science and technology focus.

As I write this, sitting at the AIFST office, I reflect on the beginning of this journey when I felt miles away from the food community. However, after meeting so many welcoming AIFST staff and encouraging industry representatives, I no longer feel I am sitting on a rock all by myself.

WA INDUSTRY BREAKFAST

In July, the WA Community of Interest Committee hosted an industry breakfast for over 50 AIFST members and guests. Professor Tom Riley and AIFST Fellow Member Gary Kennedy presented topical presentations that examined microbiological repercussions for businesses and consumers.

“We are grateful to our two industry experts for helping to build on our knowledge of food safety practices,” said Adel Youusif, WA Community of Interest Committee Convener.

“As an industry, it's critical we examine these issues and stay well informed. It was also excellent for so many AIFST members, food processing industry as well as allied instrument and service providers, to have the opportunity to connect with each other.”

The WA Food for Thought half-day symposium is currently in development for later in 2017. To register your interest or to learn more about sponsorship opportunities please contact shona.gawel@aifst.com.au.





AIFST LAUNCHES PILOT MENTORING PROGRAM

At the 50th Anniversary Convention, the Institute launched a pilot mentoring program to be run in NSW from September to December 2017. The pilot program aims to enhance their mentees' employability and build on their professional networks. It is also an opportunity for mentors to share their industry experience and knowledge.

"Through the NSW Community of Interest Committee, a working group was formed to focus on the development of a pilot mentoring program for AIFST members," said Shona Gawel, AIFST General Manager – Membership Services.

"The Committee has been incredibly dedicated, meeting weekly from the beginning of the year to establish the program. We were incredibly well

supported by the wider membership at a Mentoring Consultation breakfast held in May and have also utilised work undertaken by other members in the past to scope such a service for members. Following the pilot program, AIFST will utilise the learnings and outcomes to determine the roll out of a wider mentoring program for AIFST members in 2018."

"The need for an AIFST mentoring program was identified many years ago as a key service requested by members. I know many other members who are keen to 'give back' to the industry in a practical capacity and being a part of a mentoring program will enable that," said Anne Watson, NSW Community of Interest Committee Convener. [ia](#)

food australia will feature some of the mentor and mentee pairings in future editions. For further information please contact shona.gawel@aifst.com.au.

Executives on the move

Food Leaders Australia (FLA) CEO **Ben Lyons** has left the organisation to pursue a role in the private sector. **Bruce McConnell** is the new General Manager of FLA and commenced in the role on 28 August 2017.

Dr Stephanie Fahey commenced as CEO of Austrade in April 2017, the first female chief of the government agency.

After a six-month recruitment process, Australian Certified Organic has appointed a new Chief Executive Officer **Ben Copeman**, who took up the role from 24 July 2017.

Tanya Barden commenced as CEO of the Australian Food & Grocery Council on 3 July 2017 replacing outgoing CEO Gary Dawson who left in March to join Thales Australia as Vice President Strategy.

Australian Meat Industry Council (AMIC) has appointed experienced meat industry executive **Patrick Hutchinson** as its new Chief Executive Officer, replacing Kevin Cottrill, who retired after 15 years at the helm.

Part CSIRO owned business, The Healthy Grain Company, has appointed **Andrew Reeves**, former Chief Executive Officer of George Weston Foods, as the Chair of its board.

Meat & Livestock Australia's Donor Company (MDC) has appointed **Rachel Cofrancesco** as Chief Operating Officer effective from August 2017.

Irene Rosenfeld will retire from her role as CEO of Mondelez International after 11 years in charge of the multinational food and beverage giant.

Dirk Van de Put, current President and CEO of McCain Foods, will succeed Rosenfeld when she steps down effective November 2017.

INDUSTRY BITES

MCCAIN'S POTATO PLANT INVESTMENT

McCain Foods said it has completed the first stage of its \$57 million investment in the "regeneration" of its Ballarat potato plant. The Canada-based company stated the project, which is scheduled for completion in February 2019, will eventually create more than 100 extra jobs during the lifetime of the project and secure the long-term future of the plant. McCains advised that the works are the most significant at the site since 2003 and, once complete, plant capacity is expected to increase by 25 per cent, resulting in an additional AUD \$12.6 million for local potato farmers over the next eight years. The upgrade includes extending the plant's processing building area and installing a new potato-receiving storage facility and new technologically-advanced equipment to improve quality, production and potato capacity.

AUSTRALIAN CONSUMERS ARE CHANGING – OVERSEAS BORN DRIVING GROWTH

The profile of the average Australian consumer is rapidly changing. The latest research from Nielsen shows that grocery spend for overseas born Australians is growing at a faster rate than their Australian born counterparts. Findings from Nielsen's Ethnic-Australian Consumer Report indicate that this important consumer group will spend a total of \$18.7 billion (or 28 per cent) on grocery items in the next five years. This represents an increase of \$4.4 billion in incremental revenue, with Asian born consumers making up 57 per cent of this growth.



FACTORY OF THE YEAR, AUSTRALIA AND NEW ZEALAND

A.T. Kearney announced Lion's Salisbury Milk plant in South Australia as the winners of the inaugural Australian Factory of the Year Award. The Factory of the Year competition provides manufacturers with a robust set of metrics and targets that identify the improvement needed to maintain competitiveness both locally and globally. The ANZ Factory of the Year Award is supported by the Australian Food & Grocery Council.

ACCC TARGETS FREE RANGE EGGS

One of Western Australia's largest egg producers has been penalised \$750,000 for making false or misleading representations that its eggs were "free range". Australian Competition and Consumer Commissioner, Mick Keogh, said the penalty applied to Snowdale Holdings is the highest penalty a court has ordered in relation to misleading free range egg claims reflecting the seriousness of Snowdale's misconduct. Snowdale supplied eggs labelled free range in Western Australia under brands including Eggs by Allah, Swan Valley Free Range and Wanneroo Free Range.

SINGAPORE ENTERS FOOD INNOVATION PARTNERSHIP WITH SOUTH AUSTRALIA

A food industry collaboration between Singapore and South Australia has been signed to improve access to clean, green produce from Down Under and boost food innovation technologies in both regions. The Memorandum of Understanding (MOU) will enable the South Australia Food Innovation Centre and the Singapore Food Innovation Cluster to work closely together to identify opportunities to build the capability of the food manufacturing industries in both countries. SPRING Singapore, an agency under Singapore's Ministry of Trade and Industry that helps small and medium enterprises (SMEs) grow by assisting in financing, capability development, technology and innovation, and access to markets, Deputy Chief Executive Dr Ted Tan said the collaboration would be across several areas including product development, commercialisation, packaging and technology. "Singapore SMEs can access new food technologies and processing methods to accelerate the development of innovative products," Dr Tan said.

PLAN TO GROW AUSTRALIA'S FRUIT AND VEGETABLE EXPORTS

Horticulture Innovation Australia (Hort Innovation) has launched a new plan to leverage Australia's reputation for producing high-quality produce to significantly grow exports. Highlights from the plan include:

- Export 12,000 tonnes of cherries by 2020–21, an increase of 340 per cent over 2015 levels. This equates to a 16.5 per cent year-on-year growth over a five-year period.
- Increase the value of vegetable exports by 40 per cent (to \$315 million) by 2020.
- Increase almond export sales from 64,000 tonnes in 2016 to 110,000 tonnes in 2022.
- Increase exports of Australian strawberries from 4 per cent to at least 8 per cent of national production by 2021.
- Increase avocado exports to more than 10 per cent of production by 2021.

A key component of the export initiative is "Taste Australia", which was developed in conjunction with growers, state and federal government agencies, and other trade stakeholders. Launching in September 2017 at Asia Fruit Logistica in Hong Kong, Taste Australia will be the focus at a series of trade shows in Dubai, Beijing, Shanghai and Tokyo. Hort Innovation, Dairy Australia, Wine Australia and Meat & Livestock Australia are working together to showcase premium food and beverages at events overseas under the Taste Australia banner.



Pathways in Technology for Central Coast Students

WORDS BY JILLIAN WILLIAMS

An innovative partnership is helping Wyong High School students secure future employment in the local food science industry by giving them relevant skills and experience.

The school is one of 14 pilot sites across Australia – and the only one on the Central Coast – to kick-start the federal government's Pathways in Technology (P-TECH) partnership program which establishes long-term relationships between industry, schools and tertiary education providers.

Wyong High School has introduced a P-TECH program that enables students to achieve skills and qualifications in Science, Technology, Engineering and Math (STEM). This year serves an introduction to the food science industry for Year 9 students, with P-TECH electives set to begin in 2018 for Year 10 students

The school's Food Science and Technology elective aligns closely with industry as does the Certificate III in Information Digital Media and Technology, which will be delivered to year 10 students from 2018. It includes vocational education and training, industry mentoring, an adaptable curriculum, a post-school qualification and links to employment opportunities.

Wyong High School Relieving Principal, Adrienne Scalese, said P-TECH and the school's STEM-based programs give students opportunities to gain the skills, experiences and qualifications to work in the local industry. "These opportunities are enhanced through the support of our partners who provide experiences for students outside of the classroom through mentoring, excursions, work experience and work placement," Scalese said.

Partners in the program include local employers Mars Food Australia and Sanitarium Health and

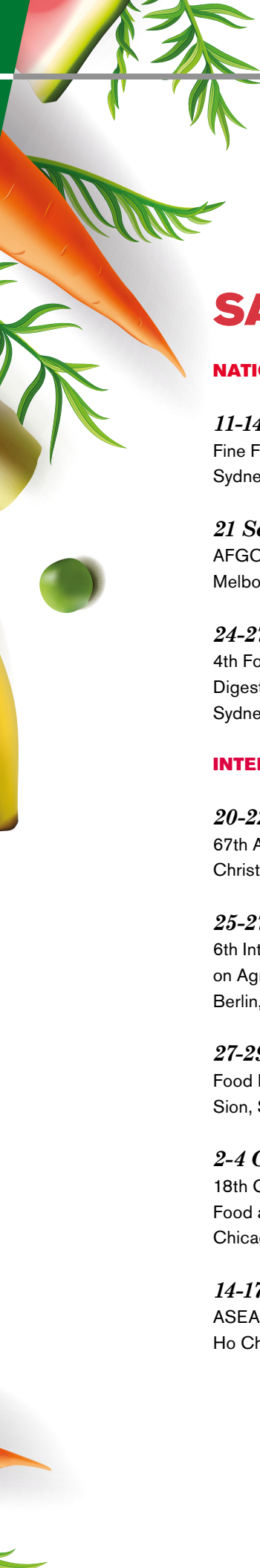
Wellbeing Australia, as well as IBM, TAFE and The University of Newcastle. The industry partnerships give students the opportunity to gain skills and experience for both current and emerging roles in food science across departments such as new product development, information technology and technical manufacturing.

One collaborative project currently underway has The University of Newcastle and local business Renovatio helping Year 9 students to develop a video documentary on food products as they travel the food chain from agricultural plot to the laboratories of Sanitarium and Mars, to the supermarket shelves and finally the consumer.

Mars Food Australia R&D Director, Peter Crane, said P-TECH is a great way to open student minds to the huge range of science and technology career opportunities. "It's our hope that the mentor model will enable our talented employees to spark new and exciting pathways to jobs for participating students, and to inspire innovative thinkers and natural leaders from our local area to join the growing Australian food industry," Crane said.

Sanitarium Health and Wellbeing Human Resources Head, Catherine Frogley, said the Food Science and Technology industry in Australia is facing a large employment gap over the next five years. She encourages AIFST members who would like more information on the program to contact AIFST General Manager, Membership Services Shona Gawel. @

Jillian Williams is the Central Coast P-TECH Industry Liaison Officer. You can reach her on twitter @ptechnaustralia.



SAVE THE DATE

NATIONAL EVENTS

11-14 September 2017

Fine Food Australia
Sydney

21 September 2017

AFGC Future Leaders Forum
Melbourne

24-27 October 2017

4th Food Structures,
Digestion and Health Conference
Sydney

INTERNATIONAL EVENTS

20-22 September 2017

67th Australasian Grain Science Conference
Christchurch, NZ

25-27 September 2017

6th International Conference
on Agriculture and Horticulture
Berlin, Germany

27-29 September 2017

Food Extrusion Technology Short Course
Sion, Switzerland

2-4 October 2017

18th Global Summit on
Food and Beverages
Chicago, USA

14-17 November 2017

ASEAN Food Conference
Ho Chi Minh City, Vietnam



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Health Star Rating Here We Go Again!

The hard-fought system to help consumers eat more healthily is under attack from certain misguided sectors of academia and public health.

**WORDS BY GEOFFREY ANNISON PHD
AUSTRALIAN FOOD & GROCERY COUNCIL**

Well, who would have thought that front-of-pack labelling (FoPL) would come around again so quickly in the contested public health policy space? It seems like only yesterday that all the major parties to the debate were welcoming the new Health Star Rating (HSR) system and the end of a protracted impasse between the food industry and the public health sector arising from their opposing views on the “interpretive” versus “informative” FoPL formats.

A determined political push, leadership from the Commonwealth, some fancy statistical footwork from some key industry and FSANZ staff, and a genuine spirit of goodwill broke the impasse leading to the introduction of the intuitive HSR FoPL system in mid-2014.





The collective sigh of relief from the major stakeholders was palpable as the five-year trial period for the voluntary system seemed to stretch way into the distant future (or at least until mid-2019). It was recognised from the launch that the HSR system was not perfect – in fact, in its development the catch-cry "don't let the perfect be the enemy of the good" guided much of the decision making. And all-in-all most commentary on the release of the HSR and immediately after was positive. The more naïve (myself included) assumed the goodwill and desire to make the system work would continue and a period of cooperation between stakeholders would extend into the formal review period of the HSR System, which is now underway. But alas, the uneasy alliances, did not last and the "imperfect has become the enemy of the good".

The three years since the HSR release has witnessed a number of academics publishing studies bagging the HSR, and more in recent months. I have commented before in these pages that those academics have missed the point – they don't understand the role of the HSR labelling system as a public health intervention. It's designed to guide food choices resulting in better diets aligned to the Australian Dietary Guidelines (ADG). Simply, if a lot of products carry the HSR labelling, and if many consumers choose higher star rating products more often than not, diets at a population level will align more closely with the ADG. That is, there will be lower intakes of risk-associated nutrients and more of positive nutrients. It has never been claimed that the HSR provides a definitive, technically perfect assessment of the healthiness of a food product. Indeed, those imagining such a perfect system can be constructed are misguided in the extreme.

Of course, allowing the terms "healthy" foods and "unhealthy" foods to creep into common parlance has undermined the important concept of healthy and unhealthy diets and the intake of nutrients as the key determinants of nutritional health. Recently this good food/bad food myth has become cloaked in respectability through the terminology of "discretionary" and "core foods". ▶▶

These terms have some utility in identifying the fit for purpose of foods (ie occasional treat foods vs meal time foods), but unfortunately this practical use has been high-jacked to drive food philosophies – essentially an anti-processed food, anti-food industry push. And now we see the same critics seeking to co-opt the HSR system to their misguided dogmas.

The most recent example is a paper by Peters et al 2017, which reports that when “added sugars” are substituted for “total sugars” in the HSR algorithm its discrimination between discretionary foods and core foods is “improved”. Now this finding should come as no surprise due to the circularity between the HSR algorithm and the classification of foods as discretionary and core.

In the paper the authors go on to advocate for added sugars to be used in the HSR algorithm within the context of the five-year HSR review.

They add to their argument by falsely implying the World Health Organization recommendations regarding “free sugars” apply to added sugars when they do not. Space does not allow me to give a comprehensive description of the distinction, but suffice to say that free sugars as defined by WHO are closer to the total sugars used in the HSR and in the current requirements in the ANZ Food Standards Code regarding the Nutrition Information Panel sugars declaration and the Nutrient Profiling Scoring Criterion (NPSC) in Standard 1.5.7 Nutrition, Health and Related Claims.

Recently this good food/bad food myth has become cloaked in respectability through the terminology of “discretionary” and “core foods”. ★ ★ ★ ★ ★

The authors report “foods were classified as core or discretionary as per the Australian Dietary Guidelines”. The Australian Dietary Guidelines classify discretionary foods based on their added sugars (and other risk-associated nutrients).

Now I have never claimed to be an expert in experimental study design or statistics, but I can see self-serving logic when it leaps from the page. Switching “added sugars” into the HSR algorithm and then claiming that it improves discrimination between core and discretionary foods, which have themselves been defined based on their added sugar content, is an entirely predictable outcome. Quite frankly, I'm surprised this rudimentary problem with the study survived the journal's editors.

Of course, the authors would argue that the HSR system should be optimised to identify discretionary foods, but that diminishes its core function of helping consumers to choose food products within food categories, including core foods.

In fact, development of each of the [related] algorithms used by the HSR, the NPSC, and United Kingdom's Ofcom all considered and rejected added sugars as a component in favour of total sugars. And for much the same reasons. The body treats all sugars in much the same way (a sugar molecule is a sugar molecule no matter how it's packaged), and indeed added sugars are difficult to measure directly (a point the Peter et al concede when discussing the limitations of their paper).

Getting back to the HSR review and ultimate purpose of the HSR system, which is to assist consumers to eat more healthily, a collegiate approach and a collaborative effort aimed at refining the HSR and building on its already impressive track record (7000 products, high levels of consumer awareness) would help. I am encouraged by the Health Star Rating Advisory Committee stressing that any change in the HSR system will be based on a solid evidence base. Indeed, the Australian Food & Grocery Council and its members will not accept anything less. 🗨️

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

FSANZ Mid-Year Highlights

A new Corporate Plan and consultation papers on beta-glucan and blood cholesterol, and infant formula were released.

WORDS BY FOOD STANDARDS AUSTRALIA NEW ZEALAND

A NEW FSANZ CORPORATE PLAN

In July, FSANZ released its latest Corporate Plan. The plan was produced at a particularly important time for the food regulation system and provides a welcome opportunity for FSANZ to support food regulation more strongly by focusing its efforts on reducing foodborne illness, supporting public health initiatives and maintaining a robust and agile food regulation system — the priorities identified by the Ministerial Forum on Food Regulation.

You can see the new Corporate Plan now on our website, www.foodstandards.gov.au.

NEW CONSULTATION PAPERS RELEASED

In early August, FSANZ released a consultation paper about beta-glucan and blood cholesterol health claims. The consultation paper follows a recent review by FSANZ of the food-health relationships between beta-glucan, oats and barley and blood cholesterol.

The review found that a food-health relationship between oats (not barley) and blood cholesterol is substantiated, not the current pre-approved relationship for a high-level health claim between beta-glucan and blood cholesterol.

With the release of the paper, FSANZ sought the views of stakeholders to understand how claims about beta-glucan are currently used and any implications for industry and consumers if changes are made to the standard.

For more information and updates on this process see the consultation paper about beta-glucan and blood cholesterol health claims page on our website.

Later in the month, FSANZ released a consultation paper on infant formula products for special dietary use. The paper was the next stage of a proposal looking at revising and clarifying standards relating to infant formula.

Although breastfeeding is the recommended way to feed a baby, a safe and nutritious substitute for breast milk is needed for babies who are not breastfed. FSANZ is looking at clarifying some standards, bringing them up-to-date with the latest scientific evidence, and is considering alignment with international regulations.

Following FSANZ's previous consultation on the general aspects of the infant formula standard, the current consultation paper seeks views on the regulation of infant formula products for special dietary use. These products are regulated as a specialised category of infant formula products, and are produced for infants who have different nutritional needs because of a health or medical condition.

FSANZ welcomed comments from all members of the community, government agencies, public health professionals and industry until mid-September. For more information and updates on this process see the P1028 – Infant Formula page on our website.

NEW APPLICATIONS AND PROPOSALS

In July, FSANZ completed an administrative assessment and accepted an application and prepared a proposal to change the Food Standards Code. The application sought to include a new approved level at which the steviol glycosides could be used as an additive to fruit drinks.

While steviol glycosides are already permitted in the Code for use as an intense sweetener at three levels, this additional level would allow beverage manufacturers to create more innovative products with reduced sugar and palatability compared to fruit juice. Further information about A1149 – Addition of Steviol Glycosides in Fruit Drinks is available on our website.

The proposal will consider varying certain maximum residue (MRL) limits for residues of agricultural and veterinary chemicals that may occur in food. The proposal will consider varying certain MRLs in the Code to align with those established by Codex or trading partner standards for the requested agricultural and veterinary (agvet) chemicals for food import purposes.

This is a routine process that allows the sale of imported food commodities with legitimate residues of agvet chemicals used in their production. The use is consistent with international regulations for the safe and effective use of the agvet chemicals based on good agricultural practice. Further information about M1015 – Maximum Residue Limits (2017) is available on our website.

FSANZ will provide public notification when an opportunity to comment on applications and proposals is available.



HIGHLIGHTS

AIFST 50TH ANNIVERSARY CONVENTION

*Technology, Science and Innovation driving
The Future of Food in Australia.*

With the largest attendance in more than a decade, the AIFST 50th Anniversary Convention, themed *The Future of Food*, was held on 17-18 July 2017 at the International Convention Centre, Sydney.

Leaders from the Australian food industry shared their insights on the importance and impact of **Technology, Science and Innovation** on the industry moving into the future.

Here are the top take-outs from the AIFST 50th Anniversary Convention:

DAY ONE: MONDAY, 17 JULY 2017

Dr Chris Downs, AIFST Director, warmly welcomed attendees to the Convention, which has been a thought leadership forum for the Australian food industry for five decades, bringing together the leading minds to discuss the science of food and share insights and learnings amongst Australia's food industry professionals.

Reflecting on the transformation of the industry and community in general during the past 50 years, the **25th President and Chair of AIFST, Peter Schutz**, highlighted how the way we communicate, source information, connect with each other and demand convenience has accelerated. Peter announced the launch of an **AIFST pilot mentoring program** (see page 13 for more information), with a full-scale program to be rolled out in 2018 to address the request from members for support in ongoing personal and professional development.

Officially opening the Convention, the **Hon Craig Laundy MP, Assistant Minister for Industry, Innovation and Science**, outlined the vital contribution the food and beverage manufacturing sector makes to the economy. Minister Laundy talked about how government policies are implemented, and government funds are invested, to foster innovation across the sector and to encourage research and collaboration between key industry players to ensure Australia remains a world leader in innovation, productivity, and competitiveness. Minister Laundy officially launched the CSIRO Food and Agribusiness Roadmap, charting a course for product technology and innovation. The Roadmap outlines value-adding opportunities for Australian products in key growth areas, including health and wellbeing, premium convenience foods and sustainability-driven products that reduce waste or use less resources.

Shaun Cousins, Executive Director, Retail and Consumer Analyst at JP Morgan, addressed the future of the market, with the key challenge being the divergence between business confidence and consumer confidence, and whether the traditional trend would see subdued consumer confidence follow strong business confidence? Cousins suggested consumer spending patterns in relation to food have changed significantly with a greater affinity for food, and it is expected that consumer demand for varied food offerings and increased willingness to dine out will continue. A key trend presented was a change in consumers' shopping behaviour – with more frequency, smaller basket spend, and the shift to visiting multiple retailers. This fragmented retail spend was presented as a great opportunity for smaller retailers and fresh food specialists to enter the market.

James Deverell, Director – CSIRO Futures, discussed the future of food, looking at the trends and subsequent opportunities that exist for those who innovate and move fast as highlighted in the CSIRO Food and Agribusiness Roadmap. One world, choosy consumers, health on the mind, a less predictive planet, and smarter food chains were all noted as trends that have emerged from globalisation and new technologies.

Justin Nel, Key Account Director – Australia & New Zealand Intel, shed light on the iGeneration and Millennials, explaining that this is the first generation to grow up with everything digital, and as a generation they share this as a commonality across the globe. This generation values customisation, non-conformity, uniqueness and personal enrichment over career changes. Key take-outs for the food industry were that this generation is moving towards cooking at home as a way to better health. This will lead to an increase in spending on food for cooking in-home, creating opportunities for brands to provide products for young consumers to enjoy before, during and after in-home meal preparation and the meal itself.

Providing insight on innovation in the food industry was **UberEATS General Manager, Simon Rossi**, presenting a view that technology + food = innovation. UberEATS has greatly impacted three groups through creating an innovative way of dining in. The delivery service has enabled time-poor consumers to enjoy the convenience of the food they want, when they want it, thereby getting time back in their day. UberEATS has helped restaurants reach more consumers, utilise existing assets (kitchens) better and no longer be constrained by bricks and mortar. This trend will only continue with more and more restaurants going purely online and commencing delivery before their physical restaurant is ready for service.

With regards to the future, Simon Rossi said: “We can’t predict the future, the one thing that we do know is that the way we access and consume food today is going to be very different in



Assistant Minister for Industry, Innovation and Science Hon. Craig Laundy officially opens the AIFST 50th Anniversary Convention.

five years, and 10 years and 15 years, and it’s the organisations and the individuals that adopt these new technologies and start using technology in a new way that will be the ones ushering in this new future.”

Continuing the theme of innovation and technology, **Tanya Barden, CEO, Australian Food & Grocery Council (AFGC)**, officially launched the latest version of the **Product Information Form (PIF V6.0)**. “PIF V6.0 is the start of a new era and just the beginning of the tools AFGC is developing to help industry turn data into information under the AFGC Authorised Food Data System,” announced Barden.

PIF is a tool developed by the food industry in Australia and New Zealand to obtain and share consistent and standardised information about food ingredients and finished products. Three vendor companies are currently authorised by the AFGC to deliver PIF V6.0 online, these include: Oak Barrel Software, Bizcaps Software and Hamilton Grant. >>

DAY TWO: TUESDAY, 18 JULY 2017

Brianna Casey, CEO, Foodbank Australia, presented some very sobering facts about food insecurity in our own backyard. Food insecurity, the situation when an individual doesn't have the means to put a meal on the table, be it a one-off or regular occurrence, affects one in six Australians, with one-third being children. Factors contributing to food insecurity include unemployment and underemployment, the cost of living, family circumstances and government policies. The irony is, globally we produce enough food to feed everyone, however one-third of all food produced is wasted. Foodbank Australia is making a difference via their operations, programs, and campaigns to supply food to 2,600 charities for distribution across Australia.

Agriculture has one of the lowest technology adoption rates of any sector, responding to this need, an exciting new initiative was launched this month to address this issue. The new Cooperative Research Centre for Food Agility is an investment in the bridge to accelerate service innovation, providing Australia with a growing competitive advantage through digital transformation. **Dr Anne Astin, Chair, Food Agility CRC**, outlined the four strategic imperatives, all powered by digital technology, to drive adoption of technology in this sector: produce the right thing; leverage brand Australia; access to finances; and build future workforces.

International speaker, **Natasha D'Costa, Frost & Sullivan, Singapore**, explored the evolving food consumer and the way consumer food choices and affordability are being defined based on emotional connections with food products, which means the story has never been more important. Aspirational

Australian Food and Agribusiness Directory – coming soon!

AIFST was thrilled to announce the soon-to-be-launched, Australian Food and Agribusiness Directory, a joint initiative between Food Innovation Australia (FIAL), AIFST and the Australian Institute of Packaging (AIP) in collaboration with Data 61. This is an exciting initiative that will help the food industry connect with other organisations more easily. For the first time ever, over 3,000 Australian businesses from the entire food and agribusiness value chain will be listed in one central location. To find out more, visit: www.fial.com.au

living – a key consumer trigger helping assess nutraceutical messages. Ethnic associations – large traditional medicine sectors moving into the commercial space. Convenience – markets where urbanisation is a key influencer. Ageing focussed – markets where the rate of ageing is accelerated. Traceability – Growing concerns over ethical and safe value chains. A product story is now a crucial factor for success.

An ancient sodium reduction strategy, potassium, was revived by international speaker **Michelle Briggs, Kudos Blends, UK**. Modern diets high in processed foods tend to be high in sodium and low in potassium with implications for health, such as cardiovascular disease, felt around the globe. Studies have shown the potential of substituting sodium for potassium without impacting the flavour of the end product. Briggs suggested the whole industry needs to collaborate to implement small changes that have a big impact, and benefit the health of the nation. She also outlined the next steps involved: manufacturers being bold, proactive and responsible.

The Institute's premier keynote address, honouring the first and foundation President, Dr JR Vickery, the **JR Vickery Address**, was given by **Barry Irvin, Executive Chairman, Bega Cheese** who challenged us all to stay alert and stay agile in the food industry. Irvin suggested some mega trends that we should all think about in relation to our businesses: globalisation 2.0; demographic change; individualisation; environmental circumstances; convergence of technologies; and the digital era. However, he suggested that what doesn't change in business is ethics and values in building trust

Bega Cheese are focused on how these trends will influence the consumer, how the consumer will change in the future, who they are, what they will look like and why they will choose to buy from organisations. Irvin suggested that one area of vital importance is communication. "Staying alert and agile is about speaking to people. Having a conversation."

To finish, Irvin urged the food industry audience to be agile and alert and embrace change to bring opportunity for businesses in the dairy industry.

Dr Sukhvinder Pal (SP) Singh, NSW Department of Primary Industries, presented on the innovative use of cold plasma in relation to horticultural industries. A unique project at the NSW Department of Primary Industries is investigating the use of cold plasma as a decontamination tool to combat bacterial, fungal and viral pathogens, particularly in relation to fruit, vegetables and nuts. Cold plasma offers an alternative to chemical sanitisers and can reduce postharvest losses due to spoilage, thus offering opportunities to gain a competitive advantage in export markets.



AIFST welcomes delegates to the 50th Anniversary Convention.

Pia Winberg, Venus Shell Systems, explored one of the oldest legacies that Australians are only just rediscovering: seaweed. This \$10 billion global crop is sustainable and efficient in production systems and is a potent nutrition source for minerals and trace elements, omega-3, dietary fibre and protein, all of which could address the chronic malnutrition – not how much you eat, but what you eat – seen in the population.

Dr Suresh Gulati, University of Sydney, was part of the team awarded the 2017 AIFST Food Innovation Award, for their development of the world's first natural omega-3 yoghurt. Omega-3 fatty acids are valuable throughout our different life stages from foetal growth, to childhood, to old age. Omega-3 fatty acids play a vital role in early childhood growth, neural development, improved vision, cognitive behaviour, improved cardiovascular health and in reducing type 2 diabetes. A challenge to overcome is the “fishy” smell and aftertaste of omega-3 foods. Collaboration between **Naturale Aust Pty Ltd** and **Tasmania's Westhaven** saw them produce the world's first omega-3 yoghurt from cow's milk featuring no sensory, no organoleptic and no oxidation issues, and importantly a good shelf life and a good source of omega-3 – an award-winning product.

The last session of the day was the **Industry Roundtable** where opinion and discussion covered how to finance innovation and growth in the Australian food industry. **Felicity Zadro, Founder and Managing Director, Zadro Agency**, facilitated the panel with lively discussion between **Barry**

Irvin, Bega Cheese; Martin Cole, CSIRO Agriculture and Food; Peter Schutz, AIFST; Michele Allan, Council of Rural Development Corporations; and Craig Heraghty, PricewaterhouseCoopers.

Some key discussions revolved around how innovation is an idea that leads to an invoice, it's not always a product – it can be a supply chain or just doing things different. The panel urged the food industry to always be curious of how other people have innovated, but be willing to stop and think and press pause. With so much technology out there, relevance needs to be chosen over quantity and it's essential to not let technology consume you. The discussion concluded that money is always out there for new ideas, but it still comes back to surrounding yourself with the right people to do business with and who can implement innovation.

Closing the **AIFST 50th Anniversary Convention**, **Georgie Aley, CEO, AIFST**, thanked the members, guests, speakers, volunteers and the many partners, who without their support AIFST would not be able to conduct such a successful event. AIFST will continue to support professional development of their members, to innovate in science and technology for the food industry, and look forward to The Future of Food and the next 50 years of the industry. 📍

For more information on the 50th Anniversary Convention including access to Convention Presentations and more event images, visit the AIFST website <https://www.aifst.asn.au>.

CONVENTION SOCIAL FUNCTIONS

WINE & CHEESE TASTING SENSATION

The ever-popular Wine and Cheese Tasting Sensation was once again a highlight of the AIFST 50th Anniversary Convention. With the support of Partner AJ Park, AIFST worked closely with the International Convention Centre team to bring delegates a unique food tasting experience including the chance to meet many of the NSW wine and cheese producers during the evening as well as catch up with colleagues and friends, both old and new.



Delegates enjoyed a range of NSW wine and cheese during the AJ Park partnered Wine & Cheese Tasting Sensation.



Delegates enjoyed live Burrata cheese making at the AJ Park partnered Wine & Cheese Tasting Sensation.

**AIFST WOULD LIKE TO
ALL OUR CONVENTION**



INAUGURAL FELLOWS BREAKFAST

More than 30 Institute Fellows enjoyed the opportunity to catch up during the Inaugural Fellows Breakfast held during the AIFST 50th Anniversary Convention. The Manildra Group partnered with AIFST to bring the event to our Institute Leaders including our recently appointed Fellow Members (see AIFST Awards on pages 8-9).



AIFST Fellow Members David Laboyrie, George Davey and Bernard Parker catch up during the Convention Fellows Breakfast.

YOUNG PROFESSIONALS BREAKFAST

AIFST was pleased to host the second Young Professionals Breakfast following the success of the inaugural event in 2016. Over 80 young AIFST professionals had the opportunity to network with peers, hear the career insights from a range of AIFST Institute Leaders as well as have a new photo taken for their LinkedIn profiles.📸



Insights shared by AIFST Member and Industry Panel at the Young Professionals Breakfast.

ACKNOWLEDGE AND THANK PARTNERS FOR THEIR SUPPORT:



Food Safety in the **SPOTLIGHT**

Over-labelling food products with allergen warnings reduces choice for allergy sufferers and can be misleading. So what are the alternatives and how best can the food industry protect the consumer?

Words by Penny Jones



Currently affecting over four million Australians, allergic diseases are an important chronic disease and public health issue in Australia, and, according to experts it's a problem that keeps getting worse.

"The prevalence in Australia is the highest documented in the world and there is very good evidence to suggest we have an increasing level of food allergy in the community," says Robin Sherlock, Vice President of the Allergen Bureau. "It's difficult to know whether this is because we're diagnosing it better, but it's certainly considered a hotspot, particularly for children up to the age of five where 10 per cent are diagnosed with a food allergy."

Sherlock, who is also Technical Manager at DTS Food Assurance, a laboratory that provides analytical services for the food industry, says that although food-allergic individuals will not always have a severe, life-threatening reaction, studies have shown that the feeling that you might have one still has a significant impact on a food-allergic person's quality of life, as well as their families or carers.

Most food allergies are caused by peanuts, tree nuts, milk, eggs, sesame seeds, fish and shellfish, lupin, soy and wheat. Exposure to these allergens causes anything from mild discomfort to potentially life-threatening anaphylaxis. To protect sufferers, Food Standards Australia and New Zealand (FSANZ) states that these ingredients must be declared on the food label. That's straightforward enough. So far so good.

Where it gets murky is that in manufacturing facilities, most of the time allergenic ingredients cannot be kept separate from non-allergenic ingredients. "It is possible to separate them, but does require time, effort and good processes," says Sherlock.

"In today's food manufacturing environment, it is virtually impossible to ensure zero chance of cross-contamination. This obviously has important implications for people with severe allergies, where even a minute amount of a peanut can cause severe allergic reaction or anaphylaxis," says allergen expert Associate Professor Alice Lee from UNSW Chemical Engineering.

Associate Professor Lee, who also is a Co-director of the ARC Training Centre for Advanced Technologies in Food Manufacture (ATFM), says this has led to many food producers, the majority of which in Australia are small to medium sized enterprises (SMEs), opting for the most conservative route of over-labelling their products with allergen warnings to protect themselves against potential litigation, even if the chance of contamination is tiny.

This might seem a sensible thing to do, but according to Associate Professor Lee, it is dramatically reducing the safe product choices for allergy sufferers and is incredibly misleading. "The real problem with the precautionary allergen labelling, or PAL, statement today is that there is absolutely no way of knowing whether it has or doesn't have allergen residues from cross-contamination," she says. "The premise of PAL statements is that if the product lists an allergen to which you are allergic, then do not consume the product."

James Roberts is an Honorary Fellow for the National Measurement Institute (NMI), which is part of the Department

of Industry, Innovation and Science. But until recently he was the General Manager of the Analytical Services branch of NMI and primarily concerned with metrology, specifically in terms of allergens and food safety and making sure new testing methods are validated, scientifically rigorously and appropriately. He agrees that one of the biggest problems in Australia is making SMEs aware of the issues.

"If I were talking to a large multinational food producer, they would absolutely understand the reputational and technical issues associated with allergen management," he says. "The problem is, however, this is not always well understood in SMEs where the impact of a death from their products or a food recall could be substantial."

Roberts says he believes Australia is progressing well in terms of developing analytical testing and allergen testing kits and he is seeing a growing number of laboratories aspiring towards attaining ISO 17025, an internationally recognised accreditation that sets out the requirements for the competence of testing and inspection laboratories.

"In today's food manufacturing environment, it is virtually impossible to ensure zero chance of cross-contamination. This obviously has important implications for people with severe allergies, where even a minute amount of a peanut can cause severe allergic reaction or anaphylaxis."

As President of the Allergen Bureau and Regulatory & Scientific Affairs Manager for Oceania for food giant Nestlé, Kirsten Grinter says it is important that industry has confidence in the tools they use. "The Allergen Bureau is primarily concerned with finding out what industry needs, and building a pathway to develop allergen management procedures and tools to ensure a consistent and transparent approach to risk review and assessment is applied. Strong robust allergen science that underpins quantitative risk assessment enables the industry in its goal of protecting the allergic consumer. Of course, by doing that we are also protecting the Australian and New Zealand food industry," she says.

With growing confusion and frustration among sufferers with allergies, the Allergy and Anaphylaxis Association (A&AA), a patient support organisation, is pushing for risk-based assessment and labelling. This is also at the heart of Associate Professor Lee's ongoing research and activities. "I believe the next step is to use PAL to effectively communicate the risk. ▶▶

This can be done by setting reference doses for each of the major allergens (ie the maximum dose that patients can consume without it causing an allergenic reaction) and the action levels (the maximum amount of an allergen that can exist in a product) accordingly," she says.

"The Allergen Bureau [which advises the food industry on the management of food allergens through the Voluntary Incidental Trace Allergen Labelling, or VITAL, program], has worked hard to set the action levels based on the reference doses scientifically

established by the VSEP [VITAL Scientific Expert Panel], to which FARRP (Food Allergy Research and Resource Program and a partner of ATFM), was a significant contributor. But in my opinion, we are currently at an impasse because FSANZ has not endorsed them,” explains Associate Professor Lee. “FSANZ are concerned about the uncertainty and accuracy of the analytical techniques used to measure allergenic residues in food, particularly in processed food.”

Grinter acknowledges these issues. “We’re not there yet and it is constantly evolving, but good, quantitative risk assessment is accepted by the industry and the Allergen Bureau’s aim is to really embed that.”

One key initiative in this space is the National Allergy Strategy which was launched in 2015 by the Australian Society of Clinical Immunology and Allergy (ASCIA) and A&AA. Sherlock says the Strategy is a world-leading program which is pulling all the strands together by recognising that allergen management is a significant issue and developing tools to help people. The latest development is a free online training course that provides information and interactive videos relevant to people in the food service industry.


Another important initiative is the Food Allergen Management Symposium (FAMS), which is being championed by Associate

Professor Lee. “In 2017, the Symposium attracted 165 delegates from 102 organisations across 10 countries. Most of our delegates were from the food industry, but we also had clinicians, dietitians, food scientists, regulatory bodies, biomedical researchers, and analysts,” says Associate Professor Lee.

The Symposium was all about improving communications between all the different stakeholder groups and Roberts, Sherlock and Grinter, who co-chaired FAMS2017, unanimously agree the event was hugely valuable.

“The Symposium was about ‘remove the disconnects’ and getting everybody on the same page in terms of what’s happening,” says Roberts.

Grinter continues: “There is real power in all working together on this. One of the best parts of the three-day event was having multiple stakeholders in the room: dietitians, nutritionists, clinicians, industry, regulators and ‘enforcers’, all hearing the individual and collective viewpoints – that’s critical.”

Having brought the stakeholders together, the next steps will be to keep the momentum going. “There is still so much to do, and much we don’t understand, but we’re in a great position to be able to continue to effectively address existing and emerging problems of this number one food safety issue in the future,” says Associate Professor Lee. 



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NOT BERRY GOOD

Frozen berries products recalled for potential hepatitis A virus contamination.

By Dr Ramon Hall

Deakin University

Frozen berry products have recently been in the media again for all the wrong reasons. They are a highly nutritious and tasty snack and are a great addition to a delicious smoothie, but they appear to have an enhanced potential to be contaminated with the hepatitis A virus.

A recent recall featured on the FSANZ Recall homepage, indicates that frozen mixed berries were recalled due to “potential hepatitis A virus contamination” and a related hepatitis A outbreak warning associated with frozen berries issued by the Victorian Chief Health Officer Department. This is not the first recall in berries products related to hepatitis A in Australia, with an earlier recall in 2015 in a similar product.

There was also large and prolonged food-borne multistate hepatitis A outbreak in Europe associated with the consumption of frozen berries between 2013 and 2014, involving 1589 reported cases of hepatitis A. Another earlier outbreak in Auckland involve 81 confirmed cases of hepatitis A associated with raw blueberries in 2002.

According to the recall statistics on the FSANZ Recall website, there have been four food recalls between 2007 and December 2016 related to hepatitis A contamination, not including the current recall. Interestingly, there have been other problematic foods in relation to hepatitis A contamination in recent years, with semi-dried tomato products in 2009 resulting in a multistate hepatitis A outbreak, which was extensively detailed in case-control study reported by Donnan and co-workers. The learnings from this report may be relevant to the current issues with the berries in that these ready-to-eat (RTE) type foods products need to have greater scrutiny applied in terms of QA requirements for local products and increased testing regimes for imported products—a Victorian government frequently asked questions fact sheet related to the current (June 2017) recall indicates that heating and/or freezing this type of product does not remove the risk of hepatitis A infection.

There is certainly a need for increased research into the risks and mitigation strategies related to RTE food products and hepatitis A to help rebuild consumer confidences in these frozen berries products and other similar products. Already, enhanced testing methods developed in France using digital RT-PCR methods for hepatitis A virus quantification in soft berries have been established and work is also underway looking at the potential effectiveness of new technologies such as high pressure processing on inactivation of the hepatitis A virus in fruit puree and juice products. Further research is needed into this important area to help food industry and consumer safety.

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

Is *Carbohydrate* a **TASTE?**

*Why does ginger smell like ginger?
How does music influence behaviour?
Do online food communities make
good focus groups?*

**Words by Drs Russell Keast, Gie Liem,
Megan Thornton and Sara Cicerale**
The Centre for Advanced Sensory Science,
Deakin University

ANOTHER TASTE!

The Centre for Advanced Sensory Science at Deakin University has been working on the possibility that carbohydrate is a taste. Behavioural studies have demonstrated that rats are very attracted to carbohydrates and prefer them to simple sugars at low concentrations. In one study we investigated taste thresholds for two carbohydrates, maltodextrin and oligofructose, along with six sweeteners. There were strong correlations between the thresholds for carbohydrates (maltodextrin, oligofructose) ($r = 0.94$, $P < 0.001$). No correlations were observed between the thresholds for carbohydrates and for sweeteners. These data provide evidence that carbohydrates can be sensed in the mouth over a range of concentrations and independent of sweet taste.

A second study looked at the relationship between carbohydrate taste and diet. Of great interest was that those classified as more sensitive to carbohydrate consumed significantly more energy, more starch and had greater waist circumferences than those who were classified as less sensitive. This research is in its infancy, but it provides further evidence that the sense of taste is a very important factor underpinning consumption of foods and may be an important factor in regulating the development of obesity.

SPICE IT UP FOR WINTER

Ginger seems to be one of those smells you can't escape in winter. The pungent taste of ginger is due to a number of non-volatile phenolic compounds, such as [6]-, [8]-, and [10]-gingerol. But what about the aroma?

To analyse the aroma of ginger from the Laiwu region, Chinese researchers utilised both static headspace extraction to obtain the highly volatile aroma compounds, and solvent assisted flavour evaporation (SAFE) to extract the less volatile (semivolatile) aroma compounds. To evaluate the impact of the identified compounds, aroma extract dilution analysis (or static headspace dilution analysis) was utilised whereby assessors sniffed sequentially diluted extracts. Those aroma compounds still perceived in the weakest dilutions were afforded higher flavour dilution (FD) factors according to the strength of dilution. The researchers noted the need for two complementary techniques to obtain “a more complete, accurate volatile profile”.

Results from the SAFE-AEDA analysis revealed 44 aroma-active compounds, including seven which had not been previously identified in ginger aroma. It was thought that the use of an alternate extraction method resulted in these newly identified compounds, or that it was due to the analysis of ginger of a different cultivar/geographical location. Those compounds with the highest FD factors (FD2187) were geranial (ginger-like, minty), bornyl acetate (ginger-like, woody), beta-linalool (floral, sweet), and eucalyptol (minty, medicine-like), which were all oxygenated monoterpene derivatives.

Analysis of the highly volatile compounds in static headspace by SHDA revealed only 13 compounds, 10 of which were also identified by SAFE-AEDA. Eucalyptol once again revealed the highest FD factor (FD10), as well as alpha-pinene (cool, ginger-like).

The structures revealed in both analyses provide strong evidence that sample preparation for analysis is important due to the reactions and chemical rearrangements that may occur to produce these volatiles.

THE SOUND OF MUSIC

Can happy music uplift morale and increase cooperation among groups of people? A number of studies have demonstrated the benefits of music in terms of greater sales in retail stores, improvement of performance by athletes, and improving feelings of affection in romantic relationships.

A recent study investigated the influence of music on cooperative behaviour among a group of undergraduate students (n=188). The participants were randomly assigned to one of three conditions. The first group of participants were exposed to “happy music”, the second to “unhappy music” and the third “no music”. For the music conditions, 8-12 minutes of music was played over a central audio system in the laboratory the students visited.

To measure cooperation as a function of the musical conditions, the researchers administered a validated, traditional public goods experiment known as the Voluntary Contribution Mechanism. Mood was measured via a four-item mood short form before, during, and after the experiment. The researchers observed that happy music significantly and positively influenced cooperative behaviour. A significant positive association between mood and

cooperative behaviour was also found. These findings add to the literature demonstrating positive effects of music on behaviour. The current study draws attention to the importance of soundscapes in relation to team/employee behaviour, warranting further investigation.


USING TECHNOLOGY TO UNDERSTAND THE CONSUMER

Nowadays we no longer need to go somewhere to feel part of a community. From the comfort of our home we can join virtual communities. We can read about, share and interact with things that interest us and connect with those who share these interests.

You only have to search for “food”, “cooking” and “recipes” on the internet and you will find hundreds of online communities you can join. This is great when you are looking for the best way to cook a steak, or to discuss the latest dish on MasterChef, but it is also a valuable source of information for businesses that try to understand and connect to their food consumers. Online food communities can almost be seen as free focus group discussions that inform product development and marketing strategies. Insight into consumers’ needs is essential for successful food innovation and the online food community can be a useful tool for companies to gain this insight.

For companies that want to set up online food communities, or those who just want to learn from them, a recent Danish study in the journal Food Quality and Preference gives some important insights. In short, consumers who use online food communities are mainly there to learn (eg, I want to know how to make a good pavlova) and moreover to voice their opinion. This means that to attract food consumers to online food communities it is important that the community not only communicates knowledge, but also gives users the opportunity to be recognised for their involvement in the community.

This can be done by generating a point or reward system in which community members can rate the contribution of others and can be rated themselves by other community members. It is important to remember that active users of these online food communities are a very select segment of consumers and should not replace more traditional consumer research, but rather add to the understanding of how certain consumers talk about your product. The other take out of this study is that online food communities are a two-way interaction with consumers (eg, learn and teach).

These interactions, of course, need to be monitored, but they can provide valuable information for product development about how to meet consumers’ needs. 

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



Health, Nutrition & the Future Consumer

3 ways to become a leader not a follower in the food revolution.

“

The food industry is in the midst of a true revolution,” said Campbell Soup CEO Denise Morrison during a presentation to analysts in New York last year. No doubt this is the case as shifts in purchasing habits and consumer preferences drive sales growth for some and unprecedented market share declines for others.

A key driver of this revolution is changing consumer food values. A 2016 Deloitte report found that the traditional value drivers of taste, price and convenience no longer dominant consumer purchasing decisions. While still relevant, evolving values related to health and wellness, safety, social impact, experience and transparency have become much more meaningful for around half of consumers. The number of people who say their purchasing decisions



are significantly influenced by these evolving value drivers no longer reflects a niche portion of the market but rather is pervasive across region, age and income. This means that every consumer targeted by food manufacturers and retailers has changed in a fundamental and impactful way.

Of this set of evolving value drivers, health and wellness is the most important and the most complex. All food businesses, no matter their product ranges, should have health and wellness on their agenda, either as part of corporate or brand positioning, product or portfolio range improvements, communication and marketing, issues management or corporate social responsibility.

It is now clear that while profit may have come at the expense of health in the past, in the future profit will increasingly come from embracing health. Many food businesses need to do more to embrace changes in this area as while some have managed to keep up, many have been slow to act. This slowness to act has contributed to the erosion of consumer confidence and trust in the food supply due to frequent negative media reports often driven by health and nutrition issues that have been around for many years.

Some of the problems that food businesses face such as declining market share, threats of increased regulation and lack ▶▶

Another way of encouraging more forward thinking is to shift from a traditional mindset of “how can we use health and nutrition to sell more of our products?” to “how can our products help solve food and nutrition problems?”

of consumer trust cannot be solved with the same thinking used in the past. A new approach is needed to create a better future for food businesses, consumers and public health.

The keys to gaining traction in this area and shifting from a dawdler to a leadership position are three-fold:

1. TRANSFORM YOUR THINKING.

Consumers are redefining what it means for a food to be “healthy”. They are moving from a focus on single nutrients or the absence of certain ingredients to a more informed understanding of the whole food system, a demand for naturally functional foods, and a concern that stretches beyond personal health to incorporate the health of the planet.

It's clear that “being less bad” is no longer good enough and to resonate with consumers in the future, food businesses must do more when it comes to health and nutrition.

A shift in thinking to incorporate elements outlined in the “next” column in the table “The evolution of how consumers are defining what's good for them” will benefit food businesses looking to take a leadership position in health and wellness.

THE EVOLUTION OF HOW CONSUMERS ARE DEFINING WHAT'S GOOD FOR THEM

NOW	NEXT
Nutrient focus	Whole food focus
Free from	Naturally functional
Superfood	Simple and soulful
Physical	Physical, social and mental
The food	The food system
Good for me	Good for me, good for the planet
Averaged	Personalised

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Another way of encouraging more forward thinking is to shift from a traditional mindset of “how can we use health and nutrition to sell more of our products?” to “how can our products help solve food and nutrition problems?”.

This way of thinking is in line with the move toward businesses taking on a greater social consciousness and moving from profit to purpose. According to Michael Porter, Director of the Institute of Strategy and Competitiveness at Harvard Business School, there is a fundamental opportunity for businesses to solve social problems. It makes sense for food businesses to solve social



problems connected to food or for which food can be a solution – such as social isolation, poor diets and obesity – as a means of creating shared value with consumers.

2. GENERATE TRUST

While much attention is given to transparency as a driver of consumer trust, and this is an important element, the consumer trust model developed by The Center for Food Integrity shows that communicating with values is three to five times more effective in generating trust than communicating facts alone.

This means that providing more information about what's in food, where it comes from and how it is made, which is primarily a fact-based exercise, can be complemented by developing food-related values and communicating with consumers through these values. A good example are the values and commitments outlined by Whole Foods Market in the USA, which was recently purchased by Amazon for \$14 billion.

3. LEAD YOUR TRIBES

Following can have its benefits such as cost saving from risk reduction and a greater level of confidence when launching something new. But when it comes to health and nutrition, following without understanding carries a high degree of risk.

For example, the significant number of health-related claims attributed to coconut oil over recent years have been nullified by a review undertaken by the American Heart Association in June this year. Eventually the hype that surrounds health-related trends that lack substantiation dies down and leaves companies looking for the next “big thing”.

Rather than following what consumers say they want or what competitors are doing, in the future more companies will take on leadership roles to genuinely help consumers improve their eating habits. This is in line with the corporate social responsibility of food businesses that operate in an environment where two in


three adults are overweight or obese and 30-40 per cent of daily kilojoule intake in children and adolescents comes from discretionary foods.

Mike Lee, founder of The Future Market, a futurist food project based in New York that explores how we will produce and shop for food over the next 25 years, said that people want better food not better marketing.

Now more than ever the product matters more than the packaging, and to get it right product developers may need to collaborate with food designers, chefs, farmers, and dietitians to create food that's genuinely better for people and the planet, and contributes to company profit.

A real opportunity exists for food businesses to lead the way toward better health and better nutrition for the population. Of all the stakeholders who play in this space – government, NGOs, public health organisations and health professionals – the food industry has the greatest power and therefore potential to make the biggest difference.

People rely on the industry, and increasingly on food service and catering, to provide most of their day-to-day food and nutritional needs. Now is a pivotal time to focus on what really makes a difference to people's health, and to make commitments in the areas that lead to the greatest changes. By doing this, we have the potential to look forward to a better future for our own health and wellbeing and that of future generations.

To request a copy of my white paper on Health & Nutrition Insights and the Future Consumer please visit www.sharonnatoli.com/books-white-papers/. 

Sharon Natoli is the Founding Director of Food & Nutrition Australia. References for this article can be found on the AIFST website: <https://www.aifst.asn.au/>.

What's New in Nutrition?

All the latest research findings from around the world.

Words by Dr Ramon Hall, Deakin University



GALACTO-OLIGOSACCHARIDES DO IT AGAIN

In a study conducted at the Kenyatta National Hospital/ University of Nairobi, researchers investigated whether prebiotic consumption (galacto-oligosaccharides) affects iron absorption from a micronutrient powder containing a mixture of ferrous fumarate and sodium iron EDTA (FeFum and NaFeEDTA) in Kenyan infants.

The study investigated a total of 50 infants aged between 6-14 months and used maize porridge as a test-meal that was fortified with a micronutrient powder containing FeFum and NaFeEDTA and 7.5 g galacto-oligosaccharides (GOS). The infant cohort was split into two groups – a Fe and GOS group (n = 22) and a micronutrient powder without GOS group (n = 28) – and they consumed these test-meals each day for three weeks. On two consecutive days, all infants were fed isotopically labelled maize porridge and MNP test meals containing 5 mg Fe as $^{57}\text{FeFum}$ and $\text{Na}^{58}\text{FeEDTA}$ or ferrous sulfate ($^{54}\text{FeSO}_4$). Iron absorption was measured as the erythrocyte incorporation of stable isotopes. Iron markers, faecal pH, and bacterial groups were assessed at baseline and three weeks. Comparisons within and between groups were done using mixed effects models.

The results revealed that there was an overall significant group by compound interaction on iron absorption. Fractional iron absorption from FeFum and NaFeEDTA and from FeSO_4 in the Fe group were 11.6 per cent, 20.3 per cent and 25.7 per cent respectively. Fractional iron absorption from the Fe and GOS group were 18.8 per cent and 25.5 per cent, respectively. The relative iron bioavailability from FeFum and NaFeEDTA compared with FeSO_4 was higher in the Fe and GOS group than in the Fe group (88 per cent compared with 63 per cent).

The authors concluded that, "GOS consumption by infants increased iron absorption by 62 per cent from a micronutrient powder containing FeFum and NaFeEDTA, thereby possibly reflecting greater colonic iron absorption."

These findings should be of interest to manufacturers of products using GOS and those developing formulations aimed at infant and child nutrition products.

ULTRA-PROCESSED FOODS: GOOD OR BAD?

In a commentary article in the recent edition of the American Journal of Clinical Nutrition, a collaborative team from University College Dublin, Singapore Institute for Clinical Sciences and the National University of Singapore critically appraised ultra-processed foods in health. This article has a thorough look at the NOVA classification system (a coding system that classifies foods based on the degree of processing), which has been incorporated into major international reports on diet and health and has also been adopted by national government policies on food-based dietary guidelines.

The NOVA classification system proposes four categories for food: unprocessed or minimally processed foods; processed culinary ingredients; processed foods; and ultra-processed foods and drinks (UPFDs). In the authors critique, they suggest: "It is argued that the latter relies heavily on modifications to foods, resulting in enhanced amounts of salt, added sugar, and fat as well as the use of additives in an attempt to make this food category highly palatable. It further argues that controlling food processing, rather than examining nutrients, should be foremost in shaping nutrition policy. This commentary challenges many of the basic arguments of using the NOVA food classification system to examine the link between food and health. We believe that there is no evidence to uphold the view that UPFDs give rise to hyperpalatable foods associated with a quasi-addictive effect and that the prevailing European Union and US data fail to uphold the assertion that UPFDs, which dominate energy intake, give rise to dietary patterns that are low in micronutrients. With regard to the use of the NOVA food classification in the development of food-based dietary guidelines, we show that the very broad definition of UPFDs makes this impossible."

The authors concluded: "The available evidence does not support the view that the globalisation of food is the driver of increased intakes of UPFDs in low to middle-income countries but rather that this is driven by small indigenous companies. On balance, therefore, there seems to be little advantage from the use of the NOVA classification compared with the current epidemiologic approach, which relies on the linkage of nutrient intakes to chronic disease with subsequent identification of foods that merit consideration in public health nutrition strategies."

This commentary is definitely worth reading in full and I encourage readers to look out for other articles and systems classifying or reclassifying food and making assumptions to health benefit or detriment. As with all new systems, thorough testing should be undertaken through RCTs to verify that these assumptions hold true.



FRUCTOSE VS GLUCOSE

Following research undertaken by the University of Canberra in collaboration with Food Standards Australia New Zealand (FSANZ), two systematic reviews and meta-analyses were recently published in the prestigious American Journal of Clinical Nutrition looking at the effects of fructose on biomarkers of health. These two reviews are expertly appraised by Professor John L Sievenpiper from University of Toronto (Canada) in an editorial entitled, "Fructose: back to the future?". His conclusions are worth noting: "The story of fructose reflects the cyclic nature of much in nutrition. The present pair of systematic reviews and meta-analyses by Evans et al. has brought the evidence full circle. Where once fructose was endorsed and then later renounced as an alternative sweetener, it is now in a position to be endorsed again on the basis of the accumulated evidence. Sources of uncertainty, however, remain with the inconsistency and imprecision in the estimates for chronic fructose intake. There is a need for more long-term (greater than six months) randomised trials to clarify the benefits of the replacement of glucose-containing sugars and starches with fructose with the use of 'real world' food applications in people with diabetes or at risk of diabetes. In the meantime, the current signal for net benefit means that one can have confidence that fructose is at least no worse than the glucose-containing sugars that it would replace."

"Where once fructose was endorsed and then later renounced as an alternative sweetener, it is now in a position to be endorsed again on the basis of the accumulated evidence."

Both systematic reviews and meta-analyses were conducted between various departments of the University of Canberra in collaboration with FSANZ and were very thorough and transparent. A kind word of warning to manufacturers who may consider undertaking less than thorough systematic reviews for health claim substantiation, FSANZ has the capability to conduct these types of reviews and may potentially come up with a different conclusion to a less than thorough review. >>

VITAMIN D AND SYSTEMIC INFLAMMATION

Study Reveals Surprising Results

In a study conducted at Curtin University in Western Australia, researchers investigated the impact of cholecalciferol (form of Vitamin D) supplementation on systemic inflammatory markers in good health and low-grade chronic inflammatory conditions associated with obesity using a systematic review of randomised controlled trials (RCTs). The study selected RCTs that were greater than or equal to 12 weeks in duration conducted in adults free of acute inflammatory disease (patient/population: adults with obesity and related chronic disease, free of acute inflammation). The study also focused on studies that were high-quality. Of 14 studies that met the study criteria, 9 studies (15 study arms) were used in the data extraction phase. Blood biomarkers of inflammation included IL-6 or C-reactive protein (CRP).

The results from this study showed that there was no overall significant effect of cholecalciferol supplementation on the weighted mean difference of IL-6 or C-reactive protein (CRP). Further subgroup analyses of trials which achieved greater than or equal to 80 nmol/l indicated a trend for lower CRP, however heterogeneity was significant. Additionally, studies using a low dose (less than 1000 IU/d) showed increased CRP. However, trials using doses of 1000 IU/d or above had a favourable effect on CRP, but again heterogeneity was significant. Finally, a meta-regression analysis indicated that older age predicted a significant decrease in IL-6 and CRP, whereas a greater percentage of females and longer study duration independently predicted higher levels for CRP.

The authors concluded that, "Available high-quality RCTs did not support a beneficial effect of cholecalciferol on systemic IL-6 and CRP. Future

studies should consider the confounding effects of age, gender and study duration, while possibly targeting an achieved 25(OH) D 80 nmol/l."

This article provides an excellent example of a systematic review and meta-analysis on the impact of cholecalciferol supplementation on the systemic inflammatory profile and provides clear guidance that future targeted studies are required to help substantiate the health effects of cholecalciferol on inflammatory biomarkers.

Dr Ramon Hall is a Senior Lecturer in Food and Nutrition Sciences within the Centre for Advanced Sensory Sciences, School of Exercise and Nutrition Sciences at Deakin University and is Principal Scientist/Registered Nutritionist at NutraRegs Pty Ltd – Nutrition and Regulatory Consulting.



IFT17: Go With Purpose

WHAT I LEARNT AT THE WORLD'S LARGEST FOOD INDUSTRY CONVENTION.

Words by Oliver Meldrum



Left to right: Christie A Tarantino-Dean (CEO, IFT); Cindy Stewart (IFT President-Elect); Chris Downs (AIFST Director); Millie Shinkfield (AIFST Member); John Coupland (IFT President); Oliver Meldrum (AIFST Member); Colin Dennis (IFT Immediate Past President).

Clean labels, new sweeteners, global food security and healthier snack foods were some of the major themes at the Institute of Food Technologists' IFT17: Go With Purpose Annual Meeting and Food Expo. Held in Las Vegas in June, the event brings together more than 20,000 attendees and 1,000 exhibitors.

The IFT17 Food Expo is a platform to launch emerging technologies, processes and product innovations. Trends highlighted this year included new applications of traditional plant-based ingredients that offer a more natural and healthier option, including allergen-free alternatives to soy protein such as plant-proteins from pulses (eg peas). Many exhibitors also responded to increased consumer awareness of clean label products and improvements in gut health due to fibre fortification, probiotics and antioxidants in the diet.

One of the major themes was the future of global food security and the challenges of feeding a growing world population that is expected to reach 9.7 billion by 2050. To with deal this challenge, Christie Lagally from The Good Food Institute said that around one-third of protein consumed would need to be sourced from plants instead of animals. This year also saw the launch of IFTNEXT Stage, a program of interactive workshops, commercialisation sessions and discussion forums aimed at challenging attendees to develop innovative solutions and facilitating engagement amongst attendees.


Millie Shinkfield and I were fortunate to be given the opportunity to represent AIFST at IFT17 and participated in the IFT17 Go

With Purpose Global Challenge, an initiative established by the IFT Student Association (IFTSA) and supported by the American Society of Association Executives Foundation.

This program is designed to foster collaboration and a spirit of engagement among food scientists from around the world including Australia, UK, China, Africa, USA and South America. Split into small groups, we were tasked with developing concepts for innovative food products and designs, and challenged to think creatively and critically about how our products could be used to tackle the global food issues raised at IFT17.

This was a truly unique experience that allowed us to interact with exhibitors and develop an engaging concept using innovative products and technologies on show at the Expo.

We also received guidance from experienced industry mentors and had the opportunity to network with the IFT Board.

In November, all participants in the IFT17 Global Challenge will present their innovative concepts at the 2017 IFTSA Global Summit, which brings the world's food science students together in one virtual meeting. 

Oliver Meldrum is a Ph.D. student at the Queensland Alliance for Agriculture and Food Innovation and AIFST Young Professionals and Queensland Communities of Interest Committee Member. His trip was funded through AIFST's partnership with IFT and support from the Centre for Nutrition and Food Sciences, QAAFI.

LUPIN What Next for Manufacturers

LUPIN IS NOW ONE OF 10 ALLERGENS THAT MUST BE DECLARED ON FOOD LABELS.

WORDS BY AUSTRALIAN FOOD & GROCERY COUNCIL

In May this year, the Australia New Zealand Food Standards Code (the Code) was amended to add lupin to the list of allergens that must be declared on food labels.

Under Standard 1.2.3 (Information requirements – warning statements, advisory statements and declarations), lupin is required to be declared where it is present as an ingredient, compound ingredient, additive or processing aid.

The Code is silent, as it is for other allergens, on labelling for lupin due to unintentional presence, for example, from cross contact through the supply chain and manufacturing.

HOW LONG DO WE HAVE?

You have until 26 May 2018 to update product information and declarations.

All products, including existing ones out on shelves, will need to comply with the new labelling requirements for declaring lupin by 26 May 2018.

WHERE WILL I FIND LUPIN?

Lupin is one of Australia's most important crops with Western Australia growing approximately 85 per cent of the world's sweet lupin supply. Lupins act as a natural fertiliser, introducing nitrogen into the soil. They have traditionally been grown as a rotational crop with wheat and oilseed such as canola.

DIRECT INGREDIENTS

Lupins are a legume similar to chickpeas and lentils and are generally used in cereal-based products such as breads and bread mixes, muffins, mueslis and pasta.

Lupins contain approximately 40 per cent protein and can be used to produce protein isolates which have functional properties that can influence the structure and texture of foods and may be used in applications for bakery, milk, meat and pasta products.

Lupin presenting as an ingredient or protein isolate should be labelled to indicate the presence of lupin on a product data specification or Product Information Form (PIF)TM.

CROSS CONTACT

In addition to lupin present in a food due to direct, intentional addition, lupins may also be present, even under conditions of Good Manufacturing Practice (GMP), due to cross contact with other materials. This could occur at any point along the food chain from primary production, ingredients and through the manufacturing process.

The potential presence of lupin via agricultural practices is an example of cross contact through agricultural co-mingling. It is important to understand that while lupins are grown as a rotational crop with wheat or canola, the size of a lupin bean is quite different to that of a wheat grain or canola seed. The cleaning processes that wheat and canola seed undergo prior to further processing are likely to remove the lupin bean. In addition, most lupins grown in Australia are grown in WA – important to consider when doing a risk assessment.

The Allergen Bureau has a FAQ on its website with information on labelling a product or commodity which is subject to agricultural co-mingling.

IMPORTED INGREDIENTS AND FOODS

Imported foods must comply with Australian standards, including the new lupin labelling requirements. Importers are responsible for compliance, and like manufacturers will need to take steps to ensure products that contain lupin or lupin products as an ingredient, additive or processing aid or due to cross contact with other materials or environment are appropriately labelled. It may be important to consider the possibility of co-mingling of lupin in internationally sourced grains.

Lupins are required to be labelled as an allergen in the EU so EU food producers should have information about the presence of lupin readily available for their products.

ANALYSIS FOR LUPINS – TO TEST OR NOT TO TEST?

There are a number of commercially available ELISA assays for the detection of lupin – and like all immunoassay based methods there are a number of factors to consider when choosing a

r Food s?

method including processing impact on the product, sensitivity, specificity, robustness and repeatability. An important factor in lupin detection is the specificity of the assay. It is also important that the method can detect a broad range of Lupin species including *Lupinus angustifolius* (Australian sweet lupin) which is the crop most frequently grown in Australia. There are several lupin lateral flow assays available for Clean-in-Place (CIP) samples and environmental monitoring. When using lateral flow assays it is important to understand the instructions for the appropriate use of these devices.

WHAT SHOULD I DO?

1. Check your PIFs for the presence of lupin as an ingredient or cross contact. You don't need to check every PIF – think about the types of ingredients or products that have a cereal base or potentially contain a protein isolate, for example.
2. Conduct a VITAL® risk assessment. There may be a risk of cross contact from agricultural practices in wheat and canola products. For imported ingredients and products, it would be advisable to ask about the potential for lupin cross contact.
3. Decide if labelling is required for lupin as an ingredient or as a cross contact allergen. The potential for cross contact is often addressed using precautionary allergen labelling (eg, May be Present: XXX) after the application of a risk assessment process such as the Voluntary Incidental Trace Allergen Labelling (VITAL) Program.

Providing details, regarding the nature and origin of any samples, to your laboratory is critical to enabling the analyst to choose the correct kit. This should include the origin of any grains in the sample submitted and if any other legumes are present.

In general, the best approach to the sampling of large volume agricultural raw materials to screen for potential cross contact is best done by taking multiple samples from the material, as distribution of any allergen from cross contact is unlikely to be homogenous, these samples should be analysed as individual samples and not analysed as a composite. Where analysis of finished product is considered, it should be done on the basis of robust risk assessment, with the sample number being reflective of the degree of risk.

The AFGC is working with Allergy & Anaphylaxis Australia (A & AA) and Australasian Society of Clinical Immunology and Allergy (ASCIA) to support the implementation of a National Allergy Strategy across all aspects of allergen awareness, management and treatment. ¹⁶

Lupin is included in PIF6.0 and has been added the ANZ legislation in VITAL® Online (the Reference Dose of lupin is 4 mg lupin protein).

For more information visit the Food Allergen Portal and the National Allergy Strategy websites. For help contact the AFGC, the Allergen Bureau, FSANZ and the Australasian Society of Clinical Immunology and Allergy.

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Know the ten allergens that have to be on food labels
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LUPINS

SOY

EGGS

SESAME SEEDS



Countdown to the 4th International **FOOD STRUCTURES, DIGESTION & HEALTH CONFERENCE**

Introducing international speakers.



Professor Mats Stading



Dr Gail Bornhorst



Dr Elke Scholten



Dr Edoardo Capuano



Dr Juliane Flourey



Professor Joanne Hort

WORDS BY DEBRA KRAUSE, CSIRO

The 4th International Food Structures, Digestion and Health Conference, being held 24-27 October 2017 in Sydney, will discuss how food interfaces with the body and how food can be designed to optimally perform throughout the GI tract for health and wellbeing. Join world-leading researchers from a diverse range of disciplines including food science, nutrition, digestive behaviour, genetics, medical science and engineering.

USING MODELS TO DESIGN INGESTION AND DIGESTION

Using models to design ingestion and digestion, the developments in modelling and how applications are being used to study the GI tract is the focus of this session. Professor Mats Stading from the Research Institute of Sweden, and Dr Gail Bornhorst from the University of California are keynote speakers in this session.

Mats is a specialist in the rheology of biopolymers, foods and biological systems. He will highlight some of his current research related to the flow of protein and polysaccharide systems with regards to dysphagia and alternative protein food sources.

Gail's specific research interests include understanding the mechanics of food structural breakdown during gastric digestion at the macro and micro-scales, and how these processes control nutrient release and food functional properties.

INFLUENCE OF FOOD STRUCTURE ON TASTE RELEASE AND TRANSPORT

Dr Elke Scholten, from Wageningen University, will discuss food structuring approaches for reformulation of foods. She will highlight how different structuring approaches can be used for fat reduction or ingredient flexibility. Spatial distribution of oil droplets, mechanical contrast in foods, design of double emulsions, and oil structuring are examples of differing approaches.

FUNCTIONAL FOOD DESIGN BEYOND NUTRITION

Designing foods for all ages for improved health outcomes is the theme of the "Functional Food Design Beyond Nutrition" session and will be the focus of a presentation by Dr Edoardo Capuano.


Eduardo is part of the Food Quality and Design group at Wageningen University and his research interests encompass understanding the effect of structural properties on bioavailability and digestibility and how they impact dietary components during each step of the digestive process.

KINETICS OF FOOD DIGESTION

Dr Juliane Flourey is head of Food Science and Engineering Masters Program at Agrocampus, Quest, France. Dr Flourey's research focuses on the mechanisms of digestive enzymes in relation to food structure to develop new food ingredients with improved nutritional properties. Her presentation will address some advanced modelling techniques, including confocal microscopy for developing a deep understanding of the gastrointestinal digestion process.

DESIGNING FOOD FOR THE FUTURE

Professor Joanne Hort is a world-renowned expert in sensory and consumer science. She is the newly appointed Fonterra-Riddet Chair of Consumer and Sensory Science at Massey University in New Zealand. Prior to this, Professor Hort was the SABMiller Chair of Sensory Science and Head of the International Centre for Brewing Science at the University of Nottingham, United Kingdom.

Professor Hort's multidisciplinary approach combining analytical brain imaging and sensory techniques provides an extensive insight into multisensory interactions, individual variation and temporal changes in the perception of flavour and emotional responses to sensory perception. Her keynote presentation will discuss individual variation in taste perception. 

AIFST is a proud supporter of the 4th International Food Structures, Digestion and Health Conference.

For more information: www.foodstructuresdigestionandhealth2017.com



5 Questions with
AIFST Member

ADAM MOORE

*Corporate Executive Chef AUS/
NZ, Cerebos (Australia) Limited*



What do you think will be the most significant change in our sector over the next 5 years?

Social media and technology for all parts of the sector will dramatically change what we farm, what we produce, what we make and what we eat and drink. We will see more and more start-ups coming into the market with new ideas and platforms and taking the consumer on a journey via their social media. We will also give our consumers more knowledge on how food and beverage is produced giving them more information to make informed decisions. Technology will also change so rapidly we may find ourselves not keeping pace, which may see us going back to more crafted or artisanal roots.

What has been the most important or interesting food innovation you've witnessed in your lifetime? Was it a success in your eyes?

As we are still discovering how our senses work and how we taste and smell, I love that Umami is still very new in its discovery or usage and understanding. I love creating food and beverage products utilising our senses and that as we debate the principles of Kokumi – that calcium is more than a vitamin but an important definition of taste – or as we map out the profiles of fat and rancidity, our palettes may be delighted by finding new utopias of flavour that have yet to be discovered or pushed into new directions.


What's the most unusual or interesting job you've ever had?

As a chef learning about pig habits and issues when working for a smallgoods company. I can talk about the produce from snout to tail, including the squeal.

What might other AIFST members be surprised to learn about you?

I'm a qualified chef as well as pastry chef, a butcher and charcutier who loves innovation and molecular cuisine as well as the science and mathematics of food – I helped create some of Australia's most recognisable products! But most people will be very shocked to know I wasn't really good at maths or science at school. In fact, I failed maths in Year 12.

What do you see as the most valuable benefit of being involved with AIFST?

Being a part of a massive network of passionate dedicated individuals who are all on the same journey. So we need to ensure that we maintain our networks and share information and discuss issues more frequently. It's a small but large community. 

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that stays
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**stable curcumin that stays
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 **Langdon**¹⁸⁵²
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