| August/September - 2018 |

potatoes australia

| CHRIS GIBBINS - PADDOCK TO PLATE | WORLD POTATO CONGRESS - ALL EYES ON PERU |
| HORT CONNECTIONS 2018 WRAP-UP - AWARD WINNERS, SPEAKER SESSIONS, EVENTS AND MORE |

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EDITORIAL

There's no shortage of research in our industry that is uncovering the most productive, sustainable and cost-effective way to grow potatoes. This research comes in many forms, whether it's looking into the best varieties to grow in certain areas; what is required to get the highest quality and yields from the paddock; what the ideal conditions are for planting, growing, harvesting or storing potatoes; or even what consumers want for their potato products.

We know more about the potato now than we have at any point in our history – but how can we share this knowledge for the benefit of our industry?

Luckily, there are many opportunities for growers, researchers and anyone along the supply chain to learn the latest Australian and international research in the potato industry. It is important to attend as many events as you can so that you can potentially implement the latest production practices and technologies on-farm or in other areas in your business.

The recently-held Hort Connections conference is one of the highlights in the local industry's calendar for learning about the latest R&D taking place in the local and international horticulture industry. This edition of *Potatoes Australia* covers what took place at the conference in Brisbane in June (page 10).

The World Potato Congress, held in Peru earlier in the year, is the preeminent conference for the international potato industry, where the industry's leading minds present on the latest updates in production techniques, varieties and many other areas. *Good Fruit and Vegetables* Editor Ashley Walmsley has provided us with some insights from the event (see page 22).

We will also be at the 2018 Potato Industry Conference hosted by ViCSPA in mid-August and will provide an update in the next edition of *Potatoes Australia*.

These events are not the only way to get up-to-date with the latest research in the industry. We encourage you to contact the researchers in this publication, who are always eager to speak with growers about their challenges and issues that can inform their research, which in turn means that you get more relevant and tailored research that can address your concerns.

We are looking for growers to feature in our upcoming *Grower Success Stories* publication, which highlights some of the growers who have benefited benefits from their involvement in Hort Innovation levy-funded R&D projects. Being involved in the levy investment system can be highly advantageous for growers and we are eager to find some great examples to promote the benefits of adopting levy-funded R&D to growers' businesses.

If you want to be involved, we would love to hear from you!

Hort Connections 2018 has cemented its reputation as the premier event for Australian horticulture, and on behalf of AUSVEG I would like to thank each and every delegate who attended this three-day conference and trade show at the Brisbane Convention and Exhibition Centre.

A joint initiative between AUSVEG and the Produce Marketing Association Australia-New Zealand (PMA A-NZ), Hort Connections 2018 encompassed the vegetable, fruit, nut, cut floral and nursery sectors. This broad range of horticultural industry representation has allowed Hort Connections to become a truly collaborative event.

One of my personal highlights from the conference was the opportunity to listen to the story of an inspirational horticulture industry member, Tommy Le from LT Fresh in Queensland. Tommy spoke at the Syngenta Breakfast about his second chance at life in Australia after he fled his home country of Vietnam, and the difficult journey he undertook as a refugee to make it to our shores. Tommy's story is one of early hardship, but he did not let that deter him from making the most out of his new life – he joined the horticulture industry growing cucumbers and then established a business that provides materials and equipment to those who are looking to start their own greenhouse operation.

Tommy's story is one of perseverance and old-fashioned hard work, and reinforces that there are plenty of opportunities available for a fruitful and satisfying career in the horticulture industry.

With almost 3,000 delegates in attendance at Hort Connections, there was also plenty of conversation around the common themes and issues affecting horticulture. The theme of this year's event, *Doubling productivity and halving waste by 2030*, was timely given how the 'war on waste' continues to be a hot topic in Australia and across the globe.

The horticulture industry is always looking for new ways to boost its outputs and get the most value out of produce, and Australia stepped up its campaign to address the growing national problem of food waste with the formation of the Fight Food Waste Cooperative Research Centre (CRC). The CRC opened its headquarters on 1 July at the University of Adelaide's Waite Campus and involves 50 industry and 10 research partners from across the supply chain.

In the potato industry, as much as 40 per cent of fresh product and around 10 per cent of processing potato by-products contribute to waste. Therefore, it is pleasing that four South Australian potato growing operations are involved in the CRC along with Potatoes South Australia CEO Robbie Davis. Each party has a vision of transforming surplus or imperfect horticulture produce into fully-functional ingredients. More information about the CRC can be found on page 30.

W Bulmer

Bill Bulmer
Chairman
AUSVEG

The sun has set on another successful Hort Connections conference and trade show; however, the hard work continues as AUSVEG and our event partner, the Produce Marketing Association Australia-New Zealand (PMA A-NZ), prepare for the 2019 event.

We are excited to announce that AUSVEG and PMA A-NZ will be joining forces once again for Hort Connections 2019, which will be held from 24-26 June at the Melbourne Convention and Exhibition Centre.

After a fantastic 2018 event which attracted almost 3,000 delegates, we are keen to work with a diverse range of industry bodies, strategic partners and exhibitors once again to deliver a world-class horticultural event. Agriculture Victoria has signed on as a state partner for the 2019 conference and we are in discussions with many more organisations to further enhance industry collaboration.

Looking back, Hort Connections 2018 produced many highlights across the three-day conference. There were plenty of formal and informal networking opportunities at organised events and the trade show was once again a hive of activity, with 195 leading agribusinesses from all areas of the supply chain showcasing the latest technology and resources available to the horticulture industry.

In the speaker sessions, the spotlight was on current issues facing the horticulture industry. I was pleased to join my PMA A-NZ counterpart Darren Keating on-stage to discuss these topics in the State of the Industry segment, which also included author Julian Cribb and the University of Queensland's Jimmy Botella, who spoke about the need for technology and innovation in business, as well increasing consumption of fresh produce.

In addition, AUSVEG organised valuable speaker sessions for delegates, which included a vegetable and potato stream involving six individual presentations and two panels presenting on a wide range of industry issues, R&D projects and supply chain technologies.

This year's Women in Horticulture event coincided with the National Breast Cancer Foundation's GO PINK week, and I am delighted to announce we successfully raised over $7,000 for the organisation. Not only did we 'go pink', a packed room of delegates were in attendance to recognise and celebrate the pivotal role that women play in the traditionally male-dominated sector.

Both women and men were celebrated at the 2018 National Awards for Excellence, the capstone event of Hort Connections. South Australian vegetable grower Scott Samwell received the prestigious Grower of the Year Award, while Victorian organic mushroom grower Chris McLoghlin took home the Young Grower of the Year accolade. Growcom Chief Advocate Rachel Mackenzie claimed the Women in Horticulture award, while IPM Technologies entomologist Jessica Page was named Researcher of the Year.

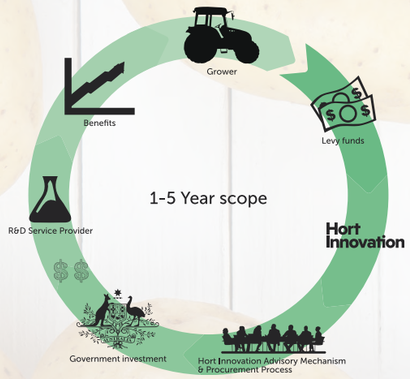
I'd like to congratulate every individual and business who was recognised at this year's awards and thank them all for their continued dedication to our industry.

James Whiteside

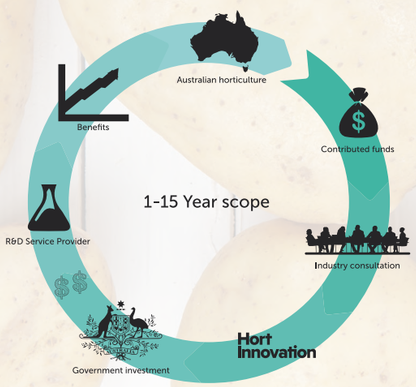
James Whiteside
CEO
AUSVEG

THE FRESH POTATO R&D LEVY AT WORK

STRATEGIC LEVY INVESTMENT



HORT FRONTIERS



WHO PAYS THE FRESH POTATO R&D LEVY?

The levy is paid by growers who produce and sell either fresh or processing potatoes in Australia.

The charge is set at 50 cents per tonne for fresh and processing potatoes and must be paid by the producer of fresh potatoes or the owner of processing potatoes. The Federal Government also provides funding in addition to grower levy payments. Once paid, these funds are managed by Hort Innovation.

HOW IS LEVY MONEY INVESTED?

Hort Innovation has two funding models for investment in research and development. The industry's levy is invested with Australian Government contributions through the Hort Innovation Potato – Fresh Fund, which is part of the organisation's strategic levy investment activities.

All investments through the Potato – Fresh Fund are made with advice from the industry's Strategic Investment Advisory Panel (SIAP) – a skills-based panel made of panellists from across the fresh potato industry, the majority of whom are levy-paying growers.

Strategic levy investments have a one- to five-year scope and the R&D is designed to directly benefit growers in the potato industry. Project topics range from pest and disease management to biosecurity matters, with findings communicated through a variety of channels, including *Potatoes Australia*.

You can find information on all current strategic levy investments, and details of the SIAP, on Hort Innovation's Potato – Fresh Fund page at **horticulture.com.au/grower-focus/potato**.

The second Hort Innovation funding model is the strategic partnership initiative known as Hort Frontiers. Hort Frontiers projects do not involve levy dollars, unless an industry chooses to become a co-investor in them, through advice of the SIAP. Instead, Hort Frontiers facilitates collaborative across-horticulture projects involving funding from a range of co-investors. These projects have a long-term focus and are designed to solve major and often complex challenges to secure the future of Australian horticulture.

You can read more about Hort Frontiers and the seven funds within it at **horticulture.com.au/hort-frontiers**.

HOW CAN GROWERS GET INVOLVED?

All potato growers are encouraged to share their thoughts and ideas for the research they want to see, both within the levy-specific Potato – Fresh Fund, and within the wider Hort Frontiers strategic partnership initiative.

Ideas can be submitted directly to Hort Innovation through the online Concept Proposal Form at **horticulture.com.au/concept-proposal-form**. Growers are also encouraged to reach out to the SIAP panellists for the industry (available from the Potato – Fresh Fund page).

Hort Innovation Strategic levy investment | POTATO – FRESH FUND

This project has been funded by Hort Innovation using the fresh potato research and development levy and funds from the Australian Government. For more information on the fund and strategic levy investment visit horticulture.com.au

HORT CONNECTIONS

18-20 June 2018
Brisbane Convention Centre

pma AUSVEG

HORT CONNECTIONS 2018 WRAP-UP

A LOOK BACK AT HORT CONNECTIONS 2018

Welcome to our special feature on Hort Connections 2018! In the pages ahead, you will find a detailed wrap-up of the three-day conference, which was held from 18-20 June at the Brisbane Convention and Exhibition Centre.

First up we have the full list of award winners from the National Awards for Excellence, as well as an in-depth interview with our Researcher of the Year Jessica Page.

We also recap the highlights from the Plenary Session and other speaker sessions held throughout the event, including the AUSVEG Speaker Stream.

There were also plenty of networking events on offer including the trade show, where The Ringer stopped by to provide his two cents' worth on the event. We also bring you the highlights from the annual Women in Horticulture event and Horticulture Field Day.

THANKS TO ALL THOSE WHO MADE THIS EVENT POSSIBLE

Special thanks must go to our event partner, the Produce Marketing Association Australia-New Zealand (PMA A-NZ), as well as our major partners Bayer, CHEP, Corteva Agriscience, Hort Innovation, Syngenta and Woolworths.

The event was made all the more worthwhile to delegates thanks to our industry co-hosts: Apple and Pear Australia Limited, the Australian Horticultural Exporters' and Importers' Association, Australian Organic, the Australian Society of Horticultural Science, Growcom, Nursery and Garden Industry Australia, Onions Australia, Protected Cropping Australia, United Fresh New Zealand Incorporated, as well as our trade show sponsors, the Central Markets Association of Australia and Fresh Markets Australia.

SAVE THE DATE FOR 2019!

We're pleased to announce that next year, Hort Connections will take place from **24-26 June at the Melbourne Convention and Exhibition Centre**, so make sure you lock in those dates.

Agriculture Victoria has already signed up as a state partner for Hort Connections 2019 and we are keen to work with as many industries as possible to deliver a conference that is a true representation of Australian horticulture, and provide even more value to our delegates.

In the meantime, we hope you enjoy our trip down memory lane as we revisit the highlights of Hort Connections 2018.

Happy reading!

Photography by Andrew Beveridge

NATIONAL AWARDS FOR EXCELLENCE WINNERS

The Hort Connections 2018 National Awards for Excellence Gala Dinner, sponsored by OneHarvest, celebrated the outstanding achievements and contributions made to the Australian horticulture industry by growers, researchers and supply chain members.

GROWER OF THE YEAR

L-R: Syngenta Vegetable Seeds Business Unit Head – Australasia Ged Sippel and Scott Samwell (winner).

YOUNG GROWER OF THE YEAR

L-R: Corteva Agriscience Marketing Manager Nick Koch and Chris McLoghlin (winner).

MARKETER OF THE YEAR

L-R: Produce Plus Magazine Editor Matthew Jones and T&G Global New Zealand Marketing Manager Michelle Singh, who accepted the award on behalf of the Lotatoes Potatoes campaign (winner).

INDUSTRY IMPACT AWARD

L-R: Danyang Ying (winner) and VISY National Sales Manager – Fibre Board Wayne Dunne.

ENVIRONMENTAL AWARD

L-R: Butler Market Gardens Chief Financial Officer George Arapoglou and Frank and Dianne Sciacca (winners).

WOMEN IN HORTICULTURE

L-R: Boomaroo Nurseries National Sales Manager Steve Winter and Rachel Mackenzie (winner).

RESEARCHER OF THE YEAR

L-R: Bayer Head of Customer Marketing Grant Steyn and Jessica Page (winner).

EXPORTER OF THE YEAR

L-R: NAB AgriBusiness Manager – Beaudesert Troy Morecroft and Ryan McLeod on behalf of Dicky Bill Australia (winner).

MERITORIOUS SERVICE

L-R: Fresh Markets Australia Chairman Shane Schnitzler and Jane Pogas (receiving the award on behalf of Paul Pogas posthumously).

INNOVATION PARTNER

L-R: Boomaroo Nurseries National Sales Manager Steve Winter and Terry Martella (winner).

COMMUNITY STEWARDSHIP

L-R: E.E. Muir & Sons Manager/Director Ian Muir and Daniel Hammond, Shayne Hyman and Noel Jansz from East Gippsland Vegetable Innovation Days (winner).

TRADE DISPLAY OF THE YEAR: SINGLE BOOTH

Flow Power.

TRADE DISPLAY OF THE YEAR: MULTI BOOTH

Nufarm Australia.

Jessica Page Researcher of the Year Jessica Page. Photography by Andrew Beveridge.


Jessica Page sets up a bioassay to test pesticides on beneficial insect species. Image courtesy of IPM Technologies.

The Researcher of the Year Award is sponsored by leading crop protection product developer Bayer. According to Peter Sullivan, Bayer Horticulture Marketing Manager, the company's sponsorship of the award reflects the importance of investing in research to advance the Australian horticulture industry.

"Bayer has supported the Researcher of the Year award for many years and we recognise the crucial role that researchers play in contributing key findings and extension work to support Australia's potato and vegetable growers," Peter said.

"Jessica and the team from IPM Technologies have helped many growers achieve sustainable and effective protection of their crops through Integrated Pest Management practices and this would not have been possible without their tireless research behind-the-scenes. Jessica is a very deserving recipient of this award and we congratulate her on her achievements."

JESSICA'S RESEARCH PROVES BENEFICIAL TO HORTICULTURE

A long and successful career as an entomologist for IPM Technologies has led Jessica Page all around the world, from Europe to south-east Asia and New Zealand, to work on Integrated Pest Management practices. Jessica's research and commitment to horticulture was celebrated at Hort Connections 2018 when she took home the Researcher of the Year award. *Potatoes Australia* reports.

As an entomologist with IPM Technologies, Jessica Page has spent over 20 years working closely with potato and vegetable growers to reduce their insecticide use and improve control of insect pests by using Integrated Pest Management (IPM) practices.

Entomologists specialise in insects and other invertebrates (animals that don't possess a skeleton of bone, either internal or external). Jessica's role is to give advice to clients such as growers and remind them that not all insects are bad for their crops.

Throughout her two decades with IPM Technologies, Jessica has worked with a wide variety of crops including potatoes, onions, shallots and other vegetables (celery, lettuce, brassicas); strawberries; flowers; broadacre crops (wheat, barley, canola); pasture; and tree crops. Her research has incorporated both field and extension activities.

Jessica's dedication to the horticulture industry and her enthusiasm for working with growers was recognised at the Hort Connections 2018 National Awards for Excellence Gala Dinner on 20 June, where she received the Researcher of the Year award sponsored by Bayer.

INSECT FOCUS

Jessica's journey into the horticulture industry began when she joined the Victorian Department of Primary Industries (DPI) as a laboratory technician after completing university. This led to her working at an insectary, a place where insects are kept, exhibited and studied. In 1996, Dr Paul Horne (who was also working with Jessica at the DPI) established IPM Technologies and Jessica joined his team. And the rest, as they say, is history.

Fast forward to 2018, and Jessica has worked on various projects in both the potato and vegetable industries, and co-authored two books published by CSIRO Publishing – *Controlling invertebrate pests in agriculture* and *Integrated Pest Management for crops and pastures*.

There are three components to IPM: biological control, cultural control and chemical control. The program is focused on integrating the three approaches to create a strategy that is sustainable.

"All of our research is about helping growers control pests and developing IPM strategies. We apply the same approach to every crop type that we work in," Jessica says.

"Alongside that, we do a lot of pesticide testing on beneficial insects. We apply that research directly to the extension activities.

"For the potato industry, it's beneficial because it's a better control of pests, a reduction in insecticides and prepares growers for the arrival of new pests such as the tomato potato psyllid (TPP)."

Currently IPM Technologies is delivering a national potato and onion IPM extension project. This five-year program offers hands-on, practical training for potato and onion growers and agronomists in all major production regions around Australia.

An IPM extension program for the potato and onion industries (MT16009) is a strategic levy investment under the Hort Innovation Onion, Fresh Potato and Potato Processing Funds.

COLLABORATION IS KEY

Jessica's work has enabled her to travel around the world with IPM Technologies. She has worked in Denmark, Sweden, Switzerland, south-east Asia and New Zealand to visit researchers and collaborate in the IPM space.

"I think collaboration is always very valuable but I think what we've learnt is that Australia is leading the way in many aspects of IPM," Jessica says.

"IPM in Australia is as well-developed as it is elsewhere. Also, the issues that farmers face here and their concerns about making practice changes are the same regardless of where they are in the world."

The TPP incursion in New Zealand and Western Australia is a strong example of how we can work with, and learn from, our overseas counterparts. In 2009, IPM Technologies visited New Zealand to help to develop an IPM strategy for growers following the detection of the psyllid. Now, the lessons learnt from our trans-Tasman neighbours using these practices can be applied to Western Australian growers who are currently managing TPP.

"When it comes to dealing with a specific pest or a pest that we don't have here, there is a lot we can learn. Working with researchers who are willing to share their knowledge is really important, and the researchers we met in Switzerland, Sweden, Denmark, south-east Asia and New Zealand were all very open."

Jessica says that her horticultural knowledge has developed from her experience working at IPM Technologies over the past 20 years, particularly in the field.

"We have always placed an emphasis on working collaboratively with growers and that's been really fundamental to everything that we do. We learn as much from the growers that we work with as they do from us," she says.

There has been positive feedback from growers as a result of working with IPM Technologies – and the rewards are two-fold.

"Some of the most rewarding parts of the job are working with individuals and small farms, and helping them make changes on the small-scale projects that we do, not just the big national ones," Jessica says.

WOMEN IN HORTICULTURE

As a female who has spent over two decades in the horticulture industry, Jessica says that women don't necessarily need to be encouraged to enter the sector.

"When I go to La Trobe University [in Victoria], it seems that half of the agriculture/science students are female. I think we need to encourage them to *stay* in the industry and I suppose a big part of that would be making sure that there are rewarding career opportunities, before and after they have children – so supporting them when they come back to work," Jessica says.

> I think it's also really important that there are more women in leadership roles, and that they're visible so that young women can see that there are long-term career options. It's also often hard for women to be visible.

"I think it's also really important that there are more women in leadership roles, and that they're visible so that young women can see that there are long-term career options. It's also often hard for women to be visible."

Women have certainly shared the limelight at IPM Technologies, with Jessica's colleague Angelica Cameron receiving the Researcher of the Year award (sponsored by SA Water) at the 2018 AUSVEG SA and William Buck Vegetable Industry Awards for Excellence in April. Angelica was also nominated for the national award.

Jessica says winning these awards is a great endorsement for the company.

"It means that we're on the right track, and that what we've been doing is relevant and is being appreciated," she says.

"My proudest achievement is working for IPM Technologies and what our company as a whole has achieved. That's making practice change, helping growers and being able to reduce pesticide use.

"I'm really proud to have received the Researcher of the Year award. I'd also really like to mention as a company, we are proud that Angelica won the award in South Australia. She has a long and very successful career ahead of her."

National Farmers' Federation President Fiona Simson.

DELEGATES FOCUS ON PREPARING FOR THE FUTURE OF HORTICULTURE

There was an action-packed morning of discussion, debate and thought-provoking questions when the Plenary Session took place at Hort Connections 2018. Delegates heard from a range of speakers including a futurist and an innovation strategist, as well as horticulture industry leaders, who covered a range of topics currently influencing the sector.

The Hort Connections 2018 Plenary Session, sponsored by Hort Innovation, treated delegates to eye-opening presentations that discussed the current state of horticulture as well as the future issues facing the industry. Both local and international experts took to the stage to break down the new technology, consumer trends and global changes that are going to shape the industry in years to come.

Global futurist Chris Riddell delved into the revolution of high-speed change and what Australian businesses can expect from a world that is increasingly being disrupted by technology. Technology is a big part of the world in which we live, and Mr Riddell spoke about how businesses must be able to keep up with the relentless pace of change as well as the need to understand the next global trends.

The futurist captured the audience's imagination when looking at the consumerisation of technology – and how consumers have more power than businesses. Mr Riddell acknowledged that the world needs to develop new forms of trust and information-sharing, and even sectors with low levels of digitisation such as horticulture are in a position to take advantage of rapid developments in technology.

STATE OF THE INDUSTRY

Next on stage was AUSVEG CEO James Whiteside, who joined Produce Marketing Association Australia-New Zealand (PMA A-NZ) CEO Darren Keating to discuss the current issues facing the horticulture industry.

Mr Whiteside shared his views on the fragmented nature of the horticulture sector, and the impact its diversity of commodities and groups has on the industry's ability to support effective advocacy in national discussions. He applauded the recent formation of the National Farmers' Federation (NFF) Horticulture Council and other collaborative efforts, but said that horticulture could benefit from taking a closer look at its strategic investments and investigate ways in which it could use them more wisely to increase efficient industry development.

Mr Keating provided a snapshot of the possibilities of fresh produce and the work that goes into developing new products that create value and engage consumers, using the "braspberry" (a blueberry inside a raspberry) phenomenon as an example.

He also discussed the high number of challenges facing the horticulture sector such as health, labour, sustainability and waste. Mr Keating spoke about the ongoing battle to maintain trust and communicate clearly in a more transparent world (for example, on social media), with a focus on authenticity and meeting evolving consumer preferences about traceability and provenance.

Sharing the stage with Mr Whiteside and Mr Keating for the State of the Industry panel discussion was Dr Jimmy Botella from the University of Queensland, and Julian Cribb, author and science communicator. The discussion centred on the need for businesses to embrace technology, and develop a list of innovative ideas that can assist in growing food and feeding the world.

The panel also discussed the multi-faceted challenge of increasing consumption of fresh produce, particularly in the context of Hort Connections' theme – halving waste and doubling productivity by the year 2030. As consumers' eating habits change and the global marketplace becomes increasingly competitive, panel members gave delegates their expert insights into how the Australian horticulture industry, from the grower through to the retailer, will need to change how it thinks about consumers.

A poignant message was delivered by Dr Cribb: "Stop talking about agriculture and horticulture and start talking about food. Food is what consumers eat. They don't eat agriculture and horticulture – they eat food," he said.

DRIVING DISRUPTION

Innovation strategist Drew Yancey then spoke about the seismic shifts being caused by disruption and innovation in businesses around the world, and how we as humans can respond to them in everyday life.

Mr Yancey said to respond to these shifts, businesses need to take into consideration the fact their business is being disrupted by a range of factors, including heightening consumer demands; choosing whether disruption is an opportunity or a threat; and strategic reflection. He broke down the processes and structures that growers can use to innovate in their own business, from business structures that encourage innovation to actually executing breakthrough ideas to see if they work.

VISION FOR AUSTRALIA

Finally, NFF President Fiona Simson spoke to delegates about her vision of Australia in 2030 and the role horticulture will have on the NFF's national agenda.

Ms Simson touched on the history of the NFF, and provided an explanation of the NFF's role in the modern Australian political world. She noted that advocacy is changing, and therefore the NFF is too – particularly in targeting more agile and responsive forms of advocacy that have adapted to the modern world's faster information flow.

On the topic of the newly-formed NFF Horticulture Council, Ms Simson said the organisation hopes it will go from strength to strength as the potential for growth in horticulture increases.

Ms Simson also highlighted the need for a united voice – not only in horticulture but across all of agriculture – to speak for growers and farmers, help them meet their goals and support agriculture in its vision of becoming a $100 billion industry in 2030.

INFO

Presentations at the Hort Connections 2018 Plenary Session are available to watch at youtube.com/user/AUSVEG/playlists.

ANNE RUSTON OPENS HORT CONNECTIONS AND HIGHLIGHTS INDUSTRY UNITY

Hort Connections 2018 was officially opened by Assistant Minister for Agriculture and Water Resources Senator the Hon. Anne Ruston on 18 June, where she congratulated the horticulture industry for coming together for a united conference and networking event and tackling the important conference theme of halving waste and doubling productivity by 2030.

"It's fantastic that you are able to get together to put on this coordinated show. I think it's a testament to your industry and the fact that you understand the importance of an entire supply chain," she said.

"This conference will go from strength to strength. Your industry, horticulture, will go from strength to strength if everybody gets on board to make this the pre-eminent conference for the whole of Australia and even internationally.

"Congratulations on what you've achieved – you set the benchmark very high."

Attendees were then able to peruse the extensive booths on display at the trade show.

Tommy Le at the Syngenta Breakfast.

DELEGATES INSPIRED AT BREAKFAST PRESENTATIONS

Hort Connections 2018 attendees fuelled up before a busy day of speaker sessions and networking at two breakfast events during the conference.

The Perfection Fresh Breakfast on Tuesday 19 June featured a wide variety of Australian fruits and vegetables, showcasing the versatility of the company's produce. Contemporary Australian comedian Rod Quantock also entertained the audience throughout the breakfast.

Delegates who attended the Wednesday breakfast, sponsored by Syngenta, were treated to an emotional presentation from Queensland vegetable grower and agronomist Tommy Le. He detailed his journey from Vietnam to Australia, including spending seven days in a small boat off the Thailand coast with 14 other family members in an attempt to escape his home country of Vietnam, and two subsequent years in a Thailand refugee camp.

Speaking under the title of "A Second Chance at Life", Tommy said he was grateful for his new life in Australia.

"I should have died in that ocean but every day I think is a second chance at life and you've got to make the most of it. So here I am," Tommy said.

Tommy is a 2016 winner of the Syngenta Growth Awards.

Photography by Andrew Beveridge


L-R: State of the Industry panellists James Whiteside, Darren Keating, Dr Jimmy Botella and Julian Cribb.


Photography by Andrew Beveridge

L-R: Panel members Matt Hood, Natalie Bell, Rocky Varapodio and moderator Daniel Williams.

VEG AND POTATO INDUSTRIES IN THE SPOTLIGHT AT HORT CONNECTIONS 2018

Vegetables and potatoes took centre stage at Hort Connections 2018 with six individual presentations and two panels presenting on a wide range of industry issues, R&D projects and supply chain technologies at this year's AUSVEG Speaker Stream.

Over 100 delegates joined vegetable and potato industry members from all facets of the supply chain who presented at the dedicated vegetable stream held during Hort Connections 2018 on Tuesday 19 June.

The AUSVEG Speaker Stream, sponsored by Boomaroo Nurseries, took place alongside the Produce Marketing Association Australia-New Zealand (PMA A-NZ) and Apple and Pear Australia Limited (APAL) Speaker Streams, which allowed delegates to focus on presentations of relevance to their respective industries.

The vegetable and potato stream consisted of individual presentations and two panels that led to vigorous discussion and the sharing of ideas among industry members and the audience.

FRESH INSIGHTS

The session's first speaker was Wayne Shields from Peninsula Fresh Organics in Victoria, who reflected on his experiences as an organic grower – from the cost of land around his Mornington Peninsula farm to a crop-by-crop breakdown of his vegetable lines, their performance and their place in his organisation.

Next up was a panel discussion, sponsored by Coles, which focused on innovation and consumer trends. Joining moderator Daniel Williams from Coles was Rocky Varapodio from Oakmoor Orchards, blueberry grower Natalie Bell from Mountain Blue Farms and Rugby Farms owner Matt Hood.

The three growers spoke about their individual businesses, the challenges faced when trialling new varieties of product and how they're ensuring their operation remains sustainable into the future. Mr Hood outlined the value-added vegetable products that Rugby Farms has introduced in the past two-and-a-half years, with an impressive 15 products developed with Coles during that time.

Following the panel discussion, Inge Bisconer from Toro Agricultural (Americas) presented irrigation case studies and trends from the United States, outlining the benefits of drip irrigation.

Applied Horticultural Research's Dr Gordon Rogers joined Donna Lucas from RM Consulting Group to discuss the *Soil Wealth and Integrated Crop Protection Phase Two project* (VG16078), a strategic levy investment under the Hort Innovation Vegetable Fund. Dr Rogers reflected on the previous project's findings and outlined what the key activities of the phase two project will be, while Ms Lucas spoke about how growers and other vegetable industry members can get involved.

A NUTRITIONAL FOCUS

The second panel discussion, sponsored by Bayer, consisted of moderator Richard Dickmann (Bayer), Lucinda Hancock (Nutrition Australia), Dr Tony Worsley (Deakin University), Fiona Baxter (Coles) and Anthony Staatz (Koala Farms). The panel discussion had a strong theme – boosting vegetable consumption among consumers, and each presenter outlined their plan for taking action.

Ms Hancock's idea was based on consistent evidence that mass media can be an effective tool to address a range of health behaviours, including increasing consumption of fruit and vegetables. She suggested spearheading a mass media campaign that could tie in all the interventions that are currently being implemented across Australia. Ms Baxter's idea focused on retailers such as Coles inspiring healthy choices in-store as well as healthy meal ideas and home cooking, while Mr Staatz focused on validating the quality of Australian farming by educating consumers and sharing positive growing stories. As vegetables are viewed as being hard to prepare and food teachers in schools are not well-supported, Dr Worsley suggested starting healthy eating competitions and awards in schools to conquer the problem.

Following the presentations, audience members participated in an interactive real-time poll for the best idea, which would then be presented to the vegetable industry's Consumer Alignment Strategic Investment Advisory Panel. Dr Worsley's suggestion generated positive feedback and received the highest number of votes.

R&D ADOPTION

Another topic that was addressed in the vegetable stream was Integrated Pest Management (IPM), with Dr Paul Horne from IPM Technologies providing examples of growers who have successfully implemented IPM practices on their farms and explaining the three control measures it uses – biological, cultural and chemical.

Omnia's Vanessa Moodley followed on with the soil health theme, acknowledging sustainable practices and the benefits of soil ameliorants for improved plant growth.

Rounding out the afternoon was Dr Hazel MacTavish-West, who spoke about her recent travels in Europe as part of her Nuffield Scholarship, where she investigated opportunities to incorporate more fruit and vegetables into value-added products. Dr MacTavish-West noted her observations of key trends, including the rise of plant-based eating.

INFO

If you would like to find out more on these topics, keep an eye on ausveg.com.au and hortconnections.com.au for videos of the presentations held during the AUSVEG Speaker Streams.


Keynote speaker Rachael Robertson. Photography by Andrew Beveridge.

WOMEN INSPIRED TO STEP OUT OF THE SHADOWS … AND GO PINK

The annual Women in Horticulture event at Hort Connections encourages all sectors of the horticulture industry to come together and celebrate the crucial role that women play in the industry. Tiahn Wright takes a look back at this year's event, which successfully raised over $7,000 for breast cancer research.

Fostering respect and taking pride in your work were the key takeaway messages for attendees at the Women in Horticulture event at Hort Connections 2018.

A sea of pink lit up the Brisbane Convention and Exhibition Centre on Wednesday 20 June as delegates came together to celebrate the essential work of women in Australia's horticulture industry and simultaneously raise much-needed funds for breast cancer research.

This year's annual Women in Horticulture event, sponsored by Boomaroo Nurseries, encouraged all delegates to don pink clothing in celebration of the National Breast Cancer Foundation (NBCF)'s GO PINK Week, and dig deep to raise money to support its important work in breast cancer research. Delegates were treated to an extensive supply of pink Boomaroo Nurseries caps and flowers from their nursery, as well as a pink lolly table to spark some enthusiasm among the audience.

A generous cheque for $1,000, presented by Emily White on behalf of Boomaroo Nurseries on the day, took the fundraising total to $7,133.80, which will help NBCF in its quest to reach zero breast cancer-related deaths by 2020.

SPEAKERS SEND STRONG MESSAGE

During the event, delegates heard from a number of inspirational speakers, headlined by leadership expert Rachael Robertson. As the youngest and second ever female expedition leader to Antarctica's Davis Station, Rachael led a diverse team through a gruelling 12-month stint in one of the world's most extreme and remote locations. Rachael spoke of the importance of maintaining good communication within a team, and gave the audience practical tips to manage conflict, foster respect in potentially difficult environments and encourage more women to step into leadership roles within their industry.

Attendees also heard from Museums Victoria's Liza Dale-Hallett who discussed the Invisible Farmer project, the largest ever study of Australian women on the land. Liza touched on the importance of recognising the work of female farmers within Australia, and the startling reality of how females' work in the agriculture sector is often missing from historical records. With alarming statistics about the under-representation of females in leadership positions in the agriculture industry, Liza encouraged attendees to be proud of their vital contributions to communities across the country and share their stories.

Continuing the message of leadership, ABC *Landline's* Pip Courtney brought a simple message to the audience: you don't need an official title to lead. Pip encouraged everyone – regardless of their role, gender or experience – to implement leadership qualities into their everyday lives, and have faith in themselves and the quality of their work. Pip also discussed the importance of nurturing unity and understanding within the horticulture sector, especially when it comes to bridging the gap between the city and country divide.

Finally, AUSVEG Deputy Chair Belinda Adams reflected on the recent Women's Industry Leadership and Development Mission to Europe in April, and recognised the 10 nominees for this year's Women in Horticulture Award, also sponsored by Boomaroo Nurseries. The winner was announced at the National Awards for Excellence Gala Dinner later that evening, with Growcom Chief Advocate Rachel Mackenzie receiving the honour.

The Women in Horticulture event is a fantastic way to recognise the contributions of dedicated females within the horticulture industry. These women often get left in the shadows, and it is the role of the entire industry to ensure their work is acknowledged and appreciated every day.

A FRESH PERSPECTIVE ON DIVERSITY

The Produce Marketing Association Australia-New Zealand (PMA A-NZ)'s Fresh Perspectives – Effecting Change workshop was also held on Wednesday 20 June at Hort Connections 2018. The workshop delved into how businesses can implement diversity, what diversity means in the modern era and how to best implement effective change within a workplace.

Attendees broke into smaller groups to discuss a range of topics including the power of inclusive leadership and overcoming cultural differences in business. Attendees were able to discuss these topics with like-minded individuals, share ideas and learn practical strategies for diversifying their workplace.

INFO

AUSVEG would like to thank Boomaroo Nurseries and all those who supported the Women in Horticulture GO PINK fundraising event for their generous donations.

The nursery structure at Koala Farms in Queensland's Lockyer Valley can be tailored to create different growing environments.

HORTICULTURE FIELD DAY TAKES DELEGATES ON A TOUR OF SOUTH-EAST QUEENSLAND

It was an unusually chilly start to the Horticulture Field Day at Hort Connections 2018 in Brisbane on Monday 18 June, where around 60 growers and industry members took advantage of the opportunity to visit fresh produce markets, agribusinesses and leading vegetable and potato farms in south-east Queensland.

The first stop for the annual Horticulture Field Day at Hort Connections 2018 was a guided tour of the Brisbane Produce Market, which spearheads the marketing and distribution of wholesale fresh fruits and vegetables in Queensland. With fresh produce on display from across the country – even salad mix from Gippsland – participants witnessed the creative ways that wholesalers displayed produce for sale.

The addition of a new roof has created an all-weather trading environment for the market and there are plans to expand the warehouse capacity and develop new opportunities for wholesalers. Participants also learnt how buyers can sign up to a credit service which avoids the need for cash transactions. Following the recent floods in Brisbane, all electrical infrastructure was raised above the existing peak flood levels to allow for continuity in the event of another flood.

After breakfast courtesy of Brisbane Markets, participants visited John Deere Australia's headquarters in Crestmead. A short presentation highlighted how the company has transitioned from its humble beginnings as the developer of the self-scouring plough in 1837 to a leading provider of machinery and other services. Participants gained an insight into John Deere's vision for the future of agriculture, where traditional farming practices will evolve into precision agriculture, and decision-making will be conducted in real time at the plant level. The group also enjoyed the opportunity to visit the showroom and get up close to some of the green and gold machinery on display.

STAKEHOLDER PRESENTATIONS

As the field day continued on to Gatton in Queensland's Lockyer Valley, participants heard short presentations from the Department of Agriculture and Water Resources' David Burns, who provided an overview of horticulture exports and the intricacies of developing market access for Australia's key vegetable export commodities. He noted recent success stories in terms of market access, including carrots to Taiwan, capsicum to New Zealand, increased vegetable commodities to South Korea and seed potatoes to Indonesia. David added that the department prioritises market access requests in conjunction with Hort Innovation and advice from industry bodies.

Dr Cherie Gambley from the Department of Agriculture and Fisheries, Queensland also provided an overview of a new strategic levy investment under the Hort Innovation Vegetable Fund, which focuses on area wide management of vegetable diseases. Cherie explained that this national project will begin with disease surveys that will ensure the information gathered is most relevant to the industry.

FARMS IN FOCUS

The next stop was Windolf Farms, which produces a range of vegetables throughout the year including broccoli, parsnips, potatoes and lettuce. Participants were given a tour of the 750-acre farm and witnessed a range of crops in the field as well as lettuce being harvested.

Participants were impressed with the cleanliness and tidy presentation of the farm, which included a dedicated washdown facility for farm equipment. Participants were then able to visit the packing shed to see broccoli being sorted, graded and packed for shipping.

The final stop for the Horticulture Field Day was Koala Farms – home of the Hort Connections 2017 Grower of the Year Anthony Staatz – which produces iceberg lettuce, baby cos, broccoli and cauliflower. Koala Farms produces its own transplants for quality control and production requirements, and participants witnessed how the seedling trays are washed and prepared for germination. The group also learnt about the farm's impressive nursery structure, which can be tailored to create different growing environments.

Given Queensland's warmer climate, the nursery structures act as a retractable cooling house rather than a greenhouse to regulate the plant environment, soil temperature and transpiration rate. The roof can close within two minutes in a sudden weather event and can automatically close in colder weather to retain heat. Participants admired the uniformity of the plants within the nursery, and also visited a nearby field to see baby cos being planted.

After an action-packed itinerary, participants returned to the Brisbane Convention and Exhibition Centre to prepare for the official opening of Hort Connections 2018.

INFO

AUSVEG would like to thank Brisbane Markets, John Deere Australia, Windolf Farms and Koala Farms for giving up their valuable time to meet with participants during the Horticulture Field Day, as well as Jak & Mo Taste Co. for catering lunch.

THE RINGER VISITS HORT CONNECTIONS

Those of you who have been in the industry a while may have come across The Ringer, the highly unqualified "bushy" and rural scribe who is often mistaken for the good-natured Ashley Walmsley, Editor of *Good Fruit and Vegetables*. To round up our special conference feature, we share some insights from The Ringer himself at Hort Connections 2018.

Veggies – it wouldn't be a meal without them.

And then of course there's fruit for dessert. (Apple crumble with prunes and custard classify as fruit in this bloke's book.)

We don't always give the old fruit and veg the respect they deserve but by jings – we'd be in trouble without them, just as we would without those that grow and sell them.

The Ringer got a taste for how big, advanced and cohesive the Australian fresh produce arena is when he stuck his head into Hort Connections 2018 at Brisbane in June.

Like a leper in a wind tunnel, he was blown away by the advancements and forward-thinking within the industry.

From fruit-picking robots, to hi-tech pest management, plus strategies for boosting vegetable consumption ("Have you tried telling them there'll be no dessert?" the Ringer suggested) and global retail trends; there was a session to cater for even the most fussy conference attendee.

Futurist (how you get that title still remains a mystery) Chris Riddell spoke about the digital wave and perhaps "gamifying" old-world business models.

The last video game The Ringer played was the beaten-up PAC-Man arcade cabinet at the Yangoolum Big Catch Fish and Chip on the corner of Turley St, back in the eighties.

Perhaps Chris' advice could be translated into chomping down on those ghost-like rogue labour hire companies and running them out of the industry? Just a thought.

The theme of the conference was halving waste and doubling productivity by 2030.

The Ringer did his bit to avoid waste by tucking into the smoko and lunchtime spreads on offer, as well as the two morning breakfasts.

About a thousand samples of that new "Orange Candy" melon near the entrance of the trade show helped to keep the sugar levels up too.

He also managed to try a broccoli latte.

Now the Ringer's not generally the latte-consuming sort of bloke but he can attest that this was a well thought-out innovation, and that simply grinding up some cabbage stalks and shoving them into a mug of International Roast isn't going to be quite the same.

But let's get down to what a conference is really all about: free stuff from the trade show.

Folk could be seen swanning around with caps and USB drives, squishy toys, pens, toffee apples, jellybeans, sunscreen, hand sanitiser, Bluetooth speakers and something that looked a bit like a Jedi light sabre.

Sadly, The Ringer was in such an information overload stupor at the wonderment, noise and colour of the trade show, he forgot to put on his best "I'm not really interested in your product but I'd love a free Frisbee" routine and came away with squat.

Not even one of those dapper pink Boomaroo Nurseries caps from the Women in Horticulture afternoon.

It didn't matter though, as the information, contacts and memories were enough worthwhile keepsakes to savour.

So well done Hort Connections 2018.

Who knows what they'll be brewing up for Melbourne next year – beetroot espresso, perhaps?


Peruvian President Martin Vizcarra officially opened the 10th World Potato Congress.

GLOBAL POTATO INDUSTRY HAS EYES ON PERU

The 10th World Potato Congress was held in Cusco, Peru earlier this year, marking the first time this triennial event visited Latin America. In the following series of articles, *Good Fruit and Vegetables* Editor Ashley Walmsley shares some insights from presentations held at the Congress.

Sustainability, biodiversity, food safety and business generation were the major themes explored at the 10th World Potato Congress (WPC) held in Cusco, Peru from 27-31 May.

While Peru is regarded as the home of the commercialisation of potato production, it was the first time the country has hosted the Congress.

More than 800 scientists, researchers and businessmen from 50 countries, including Australia, came together to meet in Cusco to talk about biodiversity, food security and business generation around the tuber.

In a boost for both the Congress and the potato's profile itself, Peruvian President Martin Vizcarra officially opened the event. In his address, Mr Vizcarra highlighted just how much of a critical crop potatoes are to his country, with 10 per cent of the total population living on potato crops.

"The potato is linked to the history of Peru, the history of a complex, diverse, extensive country, of many realities, but in all regions the potato is grown, and that reality represented in the potato that manifests the diversity of Peru," he said.

"It forces us to work in a decentralised way, thinking about what the country and its regions require, taking care of their needs."

Several speakers reiterated that the potato is considered the third most important crop in the world, behind grain and rice.

Peru boasts the widest variety of potatoes, with more than 3,000 types of native potatoes.

The WPC is held every three years at the international level. Previous editions took place in China, New Zealand, South Africa, England, Canada and the United States, among other countries.

NEW HEAD OF WORLD POTATO CONGRESS

Romain Cools of Belgium (pictured below) was selected by the World Potato Congress (WPC) Board of Directors to be the organisation's fourth president and CEO since its inception in 1993.

Mr Cools assumed the leadership role on 1 January 2018, taking over from David Thompson.

"This is the first time that we've gone outside of Canada for our President and CEO, and we couldn't have made a better choice," Mr Thompson said.

Mr Cools has a long history as a leading potato industry voice in Europe. He served as Secretary General of Belgapom, the Belgian Potato Trade and Processing Association, for the past 26 years.

Mr Cools is excited about the recent decision by the WPC Board to hold the event every two years rather than three, after the 2021 Congress.

"The WPC doesn't only want to create a showcase of new developments and ideas, but also wants to offer the opportunity to entrepreneurs, farmers and organisations to illustrate their steps forward of international collaboration on the stage of the WPC," he said.

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WPC 2018 THROUGH THE SPUD DIARIES

As part of his visit to the 10th World Potato Congress, Ashley Walmsley filed *The Spud Diaries* – dispatches from his trip that give an informative look at how potatoes are treated in their native land, including their cultural significance and the research being done to support better production.

These posts offer insights into the role potatoes play in overseas agriculture and the work being done to make sure that research results in practical, on-farm results.

Visit goodfruitandvegetables.com.au for a look at the full series of diary entries.

INFO R&D

This article originally appeared in *Good Fruit and Vegetables* and was reprinted with permission. Ashley Walmsley travelled to Peru with assistance from the Crawford Fund and with financial support from DFAT Council on Australia Latin America Relations.

Dr David Nowell from the United Nation's Food and Agriculture Organisation says farming systems need to focus on producing nutritional food, not just increasing output volumes.

AG NEEDS TO PRODUCE MORE NUTRITION, NOT VOLUME

An opening address at the World Potato Congress challenged potato breeders and the wider industry to shift their focus towards developing varieties with heightened nutritional value, rather than focusing purely on productivity.

You can feed people potato chips all day but it's not exactly beneficial consumption.

This was a line from Agriculture Officer for the United Nation's Food and Agriculture Organisation (FAO), Dr David Nowell, who gave one of the opening addresses at the 10th World Potato Congress.

He challenged the traditional mentality of commercial crop breeding and research, asking why productivity was always the aim.

He said farming systems must start thinking in terms of increasing nutritional production, not outputs.

"I've been saying we must get away from thinking about total production and more about nutritional yield," Dr Nowell said.

"It's not about giving people more food but giving them nutritional food. We've gone from populations of people being hungry to people being obese."

It was here he included his potato chip analogy, saying simply producing more in different forms was not entirely useful.

Dr Nowell said tackling world hunger and nutrient deficiencies was a huge task but thinking differently about farming systems would go a long way towards helping tackle it.

"We have to realise we are functioning within an ecosystem. We have to think of agriculture as a functional ecosystem," Dr Nowell said.

The entire food supply chain needed to be considered when discussions arise over technology improvements and production gains, according to the South African who now lives in Chile.

He reiterated a point made by several speakers, including the Peruvian President Martin Vizcarra, in that the potato was a vital global crop.

"Potatoes are important the world over but there is more we can do with it," he said.

His figures showed global potato production was 370 million tonnes per year.

The breakdown of producing countries sees Asia producing 42.1 per cent; Europe 39.2 per cent; America 12.6 per cent; Africa 5.6 per cent and Oceania 0.5 per cent.

NOT AN EASY CHALLENGE

Meeting global challenges such as sustainability are not easily done though.

"We are extremely aware that most of the big commercial farmers in the world are not sustainable," Dr Nowell said.

"We have to look at all systems in terms of sustainability. We've got ourselves into a boom and bust cycle."

One area of frustration for Dr Nowell was a lack of advancement in some government policies.

"Sometimes we are finding countries haven't changed things since the 1950s," he said.

"Not everything about the potato is commercial. Many are just growing it to live."

HELPING POORER FARMERS

Some of the work Dr Nowell has been involved with included bringing new varieties and techniques to subsistence farmers, such as those in South America, without abandoning the cultural significance of the traditional methods. Part of that has included introducing more nutritionally advanced products.

"Not all potatoes have the same nutritional value. There is a tremendous variation in what people are consuming," Dr Nowell said.

"Sometimes they don't need more, they just need the right types.

"All of us have this responsibility to explain that some products that don't have commercial value could have niche value."

He said collaboration will be the key to future achievements in global food security.

"We have to start looking at partnerships; we can't do things on our own. We need to find ways of improving livelihoods of people," he said.

INFO R&D

This article originally appeared in *Good Fruit and Vegetables* and was reprinted with permission.

International Centre for Potatoes Director General Dr Barbara Wells says the potato's potential for feeding hungry nations remains largely unexplored.

HOW SUPER-SPUDS COULD SAVE THE PLANET

In line with the 2018 World Potato Congress theme of *Biodiversity, food security and business*, one presentation explored the potential for biofortified potatoes with a higher concentration of iron and zinc to help reduce malnutrition and feed the growing global population of the future.

The potato is a powerful tool for reducing hunger and malnutrition, according to Director General of the International Centre for Potatoes, Dr Barbara Wells.

What's more, some new, revved-up varieties could make those goals a closer reality.

The highly respected leader gave an insight to the challenges of solving world food shortages in her address to the 10th World Potato Congress. Dr Wells has more than 30 years' experience in developing commercial, technical and regulatory strategies for the launch of conventional seed and seedling products.

Dr Wells presented a case for the potato's role to help in "feeding the future".

"The challenge of feeding the world is great but it will be even greater in 2050 when we have a world population predicted to be 9.7 billion," she said.

According to the United Nation's Food and Agriculture Organisation (FAO), 870 million people are undernourished, with about one in nine not getting enough food.

It is within this realm that potatoes could become key players on the world stage.

"The crop's potential for helping relieve poverty has not been explored," Dr Wells said.

"We have only begun to tap the potato's full potential for improving food security, nutrition and incomes."

SUPER POTATO LINES

International work, particularly at the International Potato Centre (CIP) has been done on biofortified potatoes; spuds containing a higher concentration of iron and zinc.

In Peru, biofortified potatoes can help reduce malnutrition in areas of the Andes, complementing strategies such as the supplementation and fortification of other foods which, because they are less sustainable, tend not to have yielded such successful results.

CIP's Quality and Nutrition Lab Head Gabriela Burgos said the first step in the process is to analyse a group of specimens from the CIP genebank to choose which ones have the highest concentrations of iron and zinc.

"Then, we cross those varieties with other specimens to get a new generation of biofortified potatoes to combat malnutrition," Ms Burgos said.

"The scientists on the Genetics and Crop Improvement Program have been working for more than 15 years developing potato clones with a higher mineral content."

Initial materials produced by the program have already been evaluated in collaboration with strategic partners.

There is currently a group of advanced clones with around 50 per cent higher content of the two micronutrients (iron and zinc), both of which are fundamental to reducing the anemia and malnutrition affecting some of Peru's poorest communities based around the country's potato production systems.

Similar to the theme within other speakers' talks, Dr Wells said it wasn't about just producing more, as food waste remains a major concern.

> According to the FAO, about a third of the food produced for human consumption is either lost of wasted.

"We also must deal with the fact that some food production and processing practices are putting unsustainable pressure on the environmental resources and will only make it harder to produce enough food in the future," Dr Wells said.

"According to the FAO, about a third of the food produced for human consumption is either lost of wasted."

She also addressed the concept of hidden hunger, saying more than two billion people worldwide suffer from micronutrient deficiencies.

"Hidden hunger affects millions more and can have consequences that can affect a person for life," she said.

While it may seem a purely humanitarian pursuit, there are bigger picture benefits to alleviating food disparity.

"Easing the world's hunger is not just a moral problem but also an economic problem," Dr Wells said.

INFO R&D

This article originally appeared in *Good Fruit and Vegetables* and was reprinted with permission.

CLIMATE CHANGE BEARING DOWN ON NATIVE POTATO CROPS

Discussions at the 2018 World Potato Congress highlighted the continuing effect of climate change on potato crops, particularly in terms of its predicted effect on a range of native potato varieties grown in the Andes region of South America.

The benefits of native Andean potato varieties might be largely untapped but the global clock could be ticking in terms of accessing them.

Climate change has been identified as a major threat to South American potato varieties which sustain thousands of subsistence farmers in the region.

According to International Potato Centre (CIP) projections, temperatures in the Andes will increase by between one and three degrees Celsius in coming decades allowing, for example, several species of insects to multiply and begin to appear at altitudes where previously they did not exist, and transmit diseases to crops.

Native potatoes will be the most affected since, for thousands of years, they have remained protected thanks to stable temperatures.

Climate change generating more humidity could also encourage the appearance of late blight, which is the single most important disease in potato.

The topic was of key interest at the 10th World Potato Congress.

Deputy Director General for Research and Development at CIP Oscar Ortíz said to combat climate change, the potato industry needed to combine several things, starting with the varieties of potato sown, which need to be resistant to drought and frost and to rising temperatures, because these are the factors that may occur in the future.

"We also need a wide diversity of crops, in order to be ready for any scenario that may arise," he said.

"And finally, as far as the Andean zone is concerned, we have to improve irrigation systems so that farmers can continue producing if there is no rainfall."

There is potential to work with the changing climate, however.

Speaking at the Congress, the University of Florence's Roberto Ferrise discussed global effects of climate change in the potato crop.

He said growers could exploit climate change through altering planting dates and cultivars.

"Advancing the planting date allows us, more or less, to maintain the yields. Other studies have shown that delaying the planting days provided benefits," Mr Ferrise said.

"Delaying strategies may be more effective when combined with early cultivars, to allow to recover current yields, or maybe even increase current yields."

He also said nitrogen fertilisation and irrigation can minimise the impact of climate change.

IRELAND TO HOST WPC 2021

No other European nation has a more special relationship with the potato than Ireland. So, it is only fitting that the 11th World Potato Congress will be held in Dublin, Ireland, from 24-27 May 2021.

The next Congress will focus on "the changing world of the potato" and will take into consideration the increased attention of issues such as climate change, sustainable production, food security and making use of modern technology.

The Irish Potato Federation has also secured the simultaneous hosting of the Europatat Congress – the annual congress of the European association of the potato trade.

For more information, visit wpc2021.com. *Reprinted by permission of Spud Smart magazine, Canada. Written by Janet Kanters.*

ABOUT CIP

The CIP, with headquarters in Lima, was founded in 1971 as a root and tuber research-for-development institution delivering sustainable solutions to the pressing world problems of hunger, poverty and the degradation of natural resources.

CIP is custodian to a collection of potato, sweetpotato and Andean roots and tubers including the world's largest collection of potato diversity.

CIP has regional offices in Peru, Ecuador, Kenya, India and China and works all over the world with projects in 20 developing countries across Asia, Africa and Latin America.

INFO R&D

This article originally appeared in *Good Fruit and Vegetables* and was reprinted with permission. All World Potato Congress images supplied by Ashley Walmsley.

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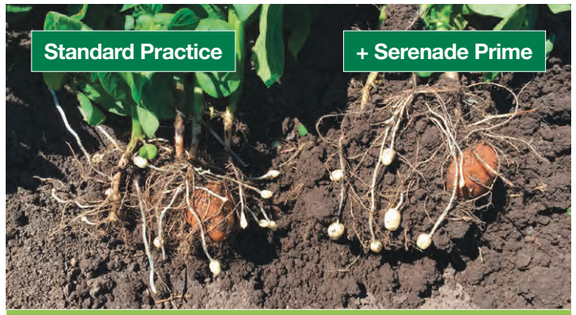
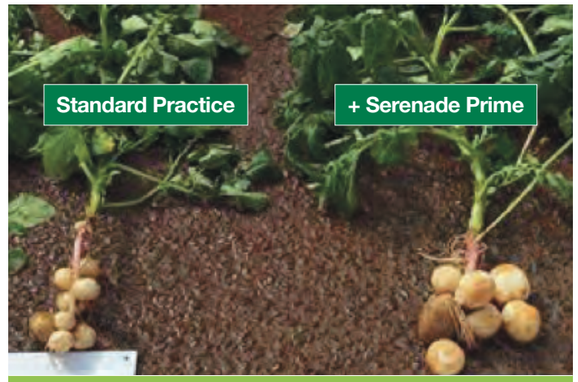
Apply 5-7 L/ha as an in-furrow spray at planting. If using drip irrigation, inject the product towards the end of the cycle to ensure proximity to the roots . It can be mixed with common fertilisers and pesticides.



Early tuber set, Southern Qld 2016.

Increased Yield

Queensland and Tasmanian results showed higher potato yields in several varieties. Golden Delight (below) showed improved early tuber set, which may have resulted from greater phosphorous (+15%) availability early in crop establishment.

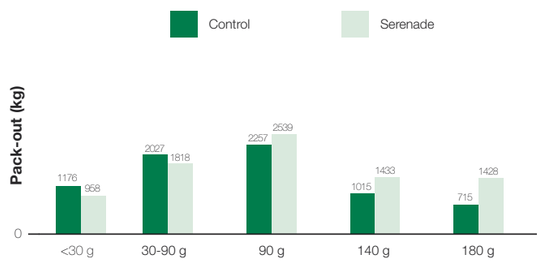


Golden Delight Far North Qld

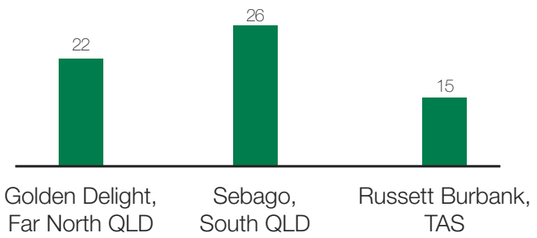
Improved Size and Quality

David Fox, Dandaragan WA, increased size consistency of washed potatoes. There was a noticeable shift with 8.7% more in the 180 gram class, and also comments indicating improved skin finish. Applications were made at planting and prior to hilling.

Pack-out by size class. Dandaragan, WA, 2016



Yield increase when compared to standard practice (%)



For more information, visit crop.bayer.com/biologics

Phil Beveridge (TIA) assessing the impacts of foliar plant growth regulation treatments on disease and yield from field plots.

Spongospora root galls on a field-grown potato plant. Image courtesy of Richard Falloon.

EXPLORING EFFECTIVE MANAGEMENT OF *SPONGOSPORA* ROOT DISEASES

The Tasmanian Institute of Agriculture recently completed a four-year research project to improve the understanding of and develop novel control strategies for *Spongospora* root diseases of potato such as powdery scab. Project Lead Calum Wilson discusses the fundamental findings that will provide an important basis to drive development of future disease control.

The potato pathology research team at the Tasmanian Institute of Agriculture (TIA) has made significant gains in improving the fundamental understanding of the difficult soil-borne pathogen *Spongospora subterranea* that causes root infection, powdery scab of tubers and reduces yield of potato crops.

The team recently completed the four-year project, *Spongospora infection of potato roots – ecology, epidemiology and control* (PT14002), a strategic levy investment under the Hort Innovation Fresh Potato and Potato Processing Funds.

The first project outcome was the development of a detection system that could monitor development of infection in the potato roots. This tool enables a more precise evaluation of the efficacy of controls and environmental influences on disease. For example, it showed the effects of soil fungicides in slowing, but not preventing, root infection and the benefits in controls or environmental conditions that delay initiation of the infection cycles.

It is well-known that the pathogen will persist in infested soils for many years as dormant resting spores. This limits the value of rotation for disease control. The project looked at resting spore dormancy and showed compounds released naturally from potato roots lead to spores becoming active, and also attracting them to the potato roots for infection.

In contrast to the resting spores, active spores persist for only a few hours in the soil. This represents an important new opportunity for management of soil pathogen levels. The treatment of infested soil with stimulatory compounds in absence of potatoes can force many dormant spores to become active. Subsequently, the vulnerable active spores will die, depleting soil pathogen levels and reducing disease risk for subsequent potato crops. The project successfully tested this concept and the project team will now look to scale this process to field testing.

FUNGICIDE EFFECTS

Study of spore dormancy also highlighted some of the limitations of fungicides for disease control. The dormant resting spores were not affected by fungicide treatment; however, the active spores are susceptible to treatment. This means that fungicide treatments will not necessarily be useful for control of soil pathogen levels and, while capable of reducing infection, are unlikely to be fully effective. However, a better understanding of spore dormancy offers opportunities to improve fungicide efficacy.

Soil inoculum levels are boosted by planting potato crops into infested soils. Volunteer potatoes and alternate (non-potato) hosts of the pathogen may also promote increases or maintained pathogen in the soil. Surveys of potato fields showed blackberry nightshade could be an important solanaceous weed host of the pathogen in cropping regions. Also poppy and pyrethrum, two important rotation crops in Tasmania, were also shown to be hosts. However, it is not yet clear what effect these alternate host crops have on soil levels and disease risk to potato. Volunteer potatoes were shown to be important in increasing soil-borne pathogen levels and their effective control following potato cropping appears critical.

> Treatments were able to promote significant increases in root mass and slightly enhanced tuber yields in fields with high levels of *Spongospora* in the soil... there was a slight reduction in the incidence of powdery scab with these treatments.

OTHER KEY FINDINGS

Information on the relative susceptibility of potato varieties to *Spongospora* root infection is limited. The project provided a resistance assessment for a range of varieties, including new lines of commercial promise selected by the project partners.

Varietal assessment involved both traditional glasshouse and field screening, with assessment also using the new root infection monitoring tool. The project team also developed a new laboratory-based assay, which relies on measuring the efficiency of the pathogen attaching to potato roots and provides a more robust, rapid and cost-effective means for screening varieties for resistance. This also identified the efficacy of pathogen attachment to potato roots as a critical resistance factor for minimising disease.

Other interesting insights included the finding that foliar plant growth regulation treatments have the potential to compensate for the loss of root function, attributable to *Spongospora* induced root infection and galling. Treatments were able to promote significant increases in root mass and slightly enhanced tuber yields in fields with high levels of *Spongospora* in the soil. In addition to increasing root growth, there was a slight reduction in the incidence of powdery scab with these treatments. These benefits are attracting interest overseas with trials in China and the United States, and further field validation of the work within Australia would be worthwhile.

KEY CONCEPTS FOR FUTURE R&D

This project identified several key recommendations for growers and for future studies to develop and optimise the new management strategies tested.

These include: choosing cultivars with greater resistance to root infection; diligent volunteer and solanaceous weed control; compensation of damage to infected roots through treatments that enhance root development; upscaling and testing of resting spore stimulants to deplete soil pathogen levels between potato crops; improving efficacy of soil-applied fungicides against the pathogen; using the new infection screening tool to reliably compare control treatments; using the new cultivar screening tool to rapidly and reliably test new cultivars for resistance; and undertaking studies to determine if the disease can be avoided altogether by disrupting pathogen binding to potato roots.

Unfortunately, *Spongospora* is a very difficult pathogen to work with and researchers are only just starting to learn fundamental concepts as to what makes it so difficult to control – nonetheless, it is with these insights that industry will be able to target the pathogen's weaknesses and minimise disease.

INFO R&D

For more information from this project, please contact Dr Calum Wilson at calum.wilson@utas.edu.au.

This project has been funded by Hort Innovation using the fresh potato and potato processing research and development levies, co-investment from Simplot Australia Pty. Ltd., McCain Foods Australia Pty. Ltd., in-kind contributions from the Tasmanian Institute of Agriculture and contributions from the Australian Government.

Project Number: PT14002

Hort Innovation

The launch of the Fight Food Waste Cooperative Research Centre was held at Foodbank's NSW/ACT warehouse.

INDUSTRY AND RESEARCHERS JOIN FORCES TO TACKLE AUSTRALIA'S FOOD WASTE PROBLEM

Food waste in Australia has generated recent national discussion due to its significant environmental impact as well as its effect on industry sustainability and profitability. Following five years of preparation and planning, the Fight Food Waste Cooperative Research Centre has been established at the University of Adelaide's Waite Campus. *Potatoes Australia* reports.

The fight against food loss and food waste has received a further boost with the opening of a new $134 million national research centre in South Australia.

The Fight Food Waste Cooperative Research Centre (CRC) opened its headquarters at the University of Adelaide's Waite Campus on 1 July 2018. This campus comprises the largest cluster of food and wine research organisations in the southern hemisphere, including partners such as the South Australian Research and Development Institute (SARDI), the University of Adelaide and Potatoes South Australia.

Fifty-one industry partners and 10 research partners from across Australia are involved in this concept, which is designed to address the growing national problem of food waste while cost-effectively transforming food loss and waste throughout the supply chain and across different sectors into products of higher value.

In the potato industry, as much as 40 per cent of fresh product doesn't meet specifications and around 10 per cent of processing potato by-products also go to waste. Given these alarming statistics, four companies from the potato industry's fresh sector are involved in the Fight Food Waste CRC. These include The Mitolo Group, Zerella Fresh, SA Potato Company and Thomas Foods International Fresh Produce, which will work together to address the food loss/waste issues in a bid to transform the sector.

POTATO FOCUS

Potatoes South Australia Chief Executive Officer Robbie Davis is a non-executive Director of the CRC, and said the centre aims to create a "circular economy". For potatoes, this begins with characterising potato starches.

"We know that amylopectin, a resistant starch, can be used as a prebiotic and as an anti-inflammatory and anti-cancer application," she explained.

"Food applications are through another starch called amylose, and we know that can positively affect glycaemic index (GI) so there's a thought that we can use this to engineer low GI foods."

Adelaide Glycomics will assist the CRC in the potato-focused studies. Led by Professor Vincent Bulone, the research will aim to develop a methodology to separate these starches and test how they can be used while keeping the process cost-effective. There will be work undertaken in conjunction with Swisse Wellness, which is eager to see the surplus horticulture product transformed into functional ingredients and nutraceuticals.

REACHING SET TARGETS

The CRC directly aligns with the National Food Waste Strategy, which was launched in November 2017. The strategy aims to halve Australia's food waste by 2030, and CRC Chief Executive Officer Dr Steve Lapidge said this initiative will certainly contribute to that goal.

"If you want to reduce food waste, you have to put a value to it. Currently, food that doesn't meet specification generally isn't valued, and so it's thrown out. If we can turn it into valuable products, then we're going to go a long way to reducing food waste in industry and manufacturing," he said.

Another component of the CRC is engaging with industry and consumers to deliver behavioural change.

"This is key because it is about thinking differently. We know that for consumers, delivering change is about understanding 'use-by' dates, understanding packaging and not buying too much – changing their buying pattern. It's understanding that this is not waste, it is food that has to be repurposed and it has value," Ms Davis said.

"Primary producers also need to appreciate the 'new' value in produce which does not meet retail specifications."

Dr Lapidge praised the potato industry for the work it had already undertaken in the food waste space.

"The potato industry in South Australia, through Robbie Davis, has been doing a fantastic job in turning around 40 per cent surplus potatoes (in premium areas) into things such as long shelf-life purees and vodka and a range of different things," he said.

"We're going to take that a little bit further and look at some of the potential nutraceuticals and health benefits that we can derive from surplus potatoes. It's a very integrated approach to making sure that the industry is fully sustainable and has zero waste, and we'd like to do that in a range of difficult horticulture industries."

INFO R&D

For more information, please contact Dr Steve Lapidge at steven.lapidge@outlook.com or Robbie Davis at robbiedavis@potatoessa.com.au.

Further details about the Fight Food Waste Cooperative Research Centre can be found at pir.sa.gov.au/food_and_wine/fight_food_waste_crc.

POTATO GROWERS: WHERE DOES YOUR EXTERNAL INFORMATION COME FROM?

There is an abundance of online information available to Australia's potato growers, from local R&D to international news and updates. Snack Brands Australia Agronomy Field and Development Manager Michael Hicks has compiled a list of helpful websites and resources to support growers' on-farm decisions.

With a high value crop grown for a market under intense price pressure, there is decreasing room for substandard crops. Efficiency gains at all levels of the supply chain will continue to be essential for healthy domestic potato processing industries in the future, as will potato crop reliability.

Most knowledge would generally come from personal experiences and those of previous generations, along with fellow growers, agronomists, company representatives and local researchers.

The power of online resources should not be underestimated or underutilised as tools to take your business into the future. As most of the information is generated internationally, you will generally have to think about the relevance to your own circumstances. In many cases, you'll come across information that is interesting but not that relevant to what you do. That information may make you conscious of something that you would have otherwise not given a thought about, which in time can lead to "what if" moments. It's the "what if" that leads to change.

The more information you absorb, the more opportunities you will identify. You may need a few seasons where you just observe something before you decide to make an idea your own and implement change.

NAVIGATING SOCIAL MEDIA

Social media has a reputation for generating crazy amounts of useless information but it doesn't have to be this way. Many online resources you may find interesting have social media accounts so get online and "like" or "follow" them to get some useful feeds into your account. Social media doesn't need to be just about oversharing or intrusive so-called "friends". Just like that relative you want to distance yourself from, you can always unlike or leave pages or groups.

Many of the industry magazines (including this one) can be found online and you can often subscribe for free or sign-up to e-newsletters. Here are just a few:

- **Potato Grower:** potatogrower.com
- **Spudman:** spudman.com
- **Potato World:** potatoworld.eu
- **Potato Country:** columbiapublications.com/potatocountry

A lot of the research organisations have great extension or outreach programs, including universities in the United States:

- **University of Idaho:** uidaho.edu/cals/potatoes
- **University of Wisconsin:** potatoes.wsu.edu
- **North Dakota State University:** ag.ndsu.edu/potatoextension
- **University of Maine**: extension.umaine.edu/potatoes/publications
- **Northwest Potato Research Consortium:** nwpotatoresearch.com

UK industry organisations include:

- **Agriculture & Horticulture Development Board (AHDB Potatoes):** potatoes.ahdb.org.uk
- **Science and Advice for Scottish Agriculture:** sasa.gov.uk/seed-ware-potatoes

The United Nations Economic Commission for Europe (UNECE) publishes some valuable information on potato pests and diseases with high quality images: unece.org/tradewelcome/steering-committee-on-trade-capacity-and-standards/tradeagr/brochures-and-publications/potato-diseases-and-pests.html

There is also great website for PVY. The information and images are extremely valuable: potatovirus.com/index.cfm/page/index.htm

AUDIO AND VISUAL RESOURCES

Audio visual presentations from industry experts on a range of topics are available via the Plant Management Network. A subscription for a small fee is required to access all presentations, but there are still a number available for free. The Potato Growth and Development presentation is a good place to start and don't let the yearly subscription fee deter you as you don't need to learn much before you pay for it.

- **Plant Management Network:** plantmanagementnetwork.org/infocenter/topic/focusonpotato

There is also YouTube, but you may find yourself watching the promotional videos from a tractor company with strange music.

Some of the agricultural chemical and fertiliser companies provide some good information on their websites. Keep in mind *why* they are providing this information.

- **Yara:** yara.com.au/crop-nutrition/crops/potato

Many of the big potato growing businesses have some neat websites and if you follow them on social media you can follow their journey. ViCSPA is another organisation worth following on social media.

- **Black Gold Farms:** blackgoldfarms.com
- **CSS Farms:** cssfarms.com
- **ViCSPA:** vicspa.org.au

For international potato news there is **PotatoPro:** potatopro.com

Remember to save any sites that interest you in your favourites folder or create a list on a word document for future reference. Try to be proactive rather than reactive when it comes to using online resources. You can find this article with interactive links at ausveg.com.au/news-media/publications.

INFO R&D

For more information, please contact Michael Hicks on 0408 437 335 or at michael.hicks@snackbrands.com.au. To provide your feedback, contact Anne Ramsay on 0400 368 448 or at ppaa.eo@gmail.com.

L-R: Serge Usatov (BASF), Barry Braden (AgnVet Services), Woody Silvester (Rapisarda Farms) and Greg Haslam (BASF).

NEW APHID INSECTICIDE AVAILABLE FOR AUSTRALIAN POTATO GROWERS

Australia's potato growers are the first in the world to access a new insecticide developed to control aphids in their crops, and lessen the spread of destructive diseases such as potato virus Y.

A new insecticide has been introduced to the global crop protection market and Australian growers are the first in the world to access the product.

Versys is a new insecticide launched by BASF and the product is registered to control key aphid species as well as suppress silverleaf whitefly.

Potatoes are one of the crops the product can protect against in terms of direct feeding damage from aphids and the potential transmission of viruses.

In potatoes, Versys can be used up to four times in each crop at 100 millilitres per hectare to control green peach aphids, cabbage aphids, currant lettuce aphids, cotton and melon aphids. It can also be applied twice at the higher rate of 350 millilitres per hectare with Hasten® to suppress silverleaf whitefly in vegetable crops.

The insecticide can control aphids from feeding in 15 minutes, which significantly reduces the risk of populations spreading viruses such as potato virus Y.

"This is very exciting news for local potato and vegetable growers. Instead of waiting a year or two longer than growers in other countries, which is the more usual and expected pattern, this time our Australian customers are at the head of the queue," BASF Specialty Crops Portfolio Manager Serge Usatov said.

"Our team has managed to give Australian customers first access to important new chemistry."

GROWER CASE STUDY

Woody Silvester, Farm Manager of Rapisarda Farms in the Burdekin Valley in north Queensland, was the first grower in the world to take delivery of Versys. While he doesn't grow potatoes, Woody believes the benefits of using this product on cucurbits are also applicable to potato crops.

"It was released right at the very point of the year when aphid pressure is starting to peak and it's most useful," Woody said.

"The results so far have been really good. We took a calculated gamble by ordering a considerable quantity in advance, but I didn't want to find out it worked really well and not have a good supply.

"Having the option of four sprays is a very real benefit. It's soft on beneficials – with those four sprays of product, plus releases of beneficials and rotating in other chemicals, we can treat each crop every seven days without any risk to the new chemistry or abusing any product by going against label guidelines."

The Rapisarda team has also successfully tank-mixed the product with their full roster of standard spray partners. Now that he has added a softer chemical to his program, Woody will take the opportunity to cut back on the use of some other products.

"Versys will give us the freedom to get some of the harsher chemicals out of the rotation faster. There's one product that controls aphids all right, but whenever we use it we see an increase in thrips because it eliminates the beneficial predators."

The insecticide is available in all vegetable-growing areas and potato growers have the opportunity to find out more about how the product can add to their crop protection programs.

INFO

For more information, please visit crop-solutions.basf.com.au.

INVESTMENT IN SURVEILLANCE UNDERPINS INDUSTRY GROWTH

As Australian potato growers work to increase their productivity and profitability, they can look to benefits flowing from the Australian Government's investment in strengthening biosecurity surveillance through the Agricultural Competitiveness White Paper, with AUSVEG and other industry bodies working with the Federal Government to protect farm health.

Australia's geographic isolation, combined with more than a century of strong biosecurity measures, has kept us free of many pests and diseases found elsewhere in the world.

But increasing numbers of cargo and passengers, changes to our climate, and an increasing global spread of plant pests, is putting this freedom at risk. Our trading partners are also demanding stronger evidence of our pest and disease freedom (it is no longer enough to say something just isn't here).

To meet these challenges, the Federal Government is investing $200 million over four years through the Agricultural Competitiveness White Paper (2015-2019) to improve biosecurity surveillance and analysis, and better target critical biosecurity risks.

A crucial part of the investment is the building of a new, improved national surveillance system; one being developed in partnership between government, peak industry bodies, researchers, environmental groups, growers and the general community.

REMAINING VIGILANT

AUSVEG Biosecurity Coordinator Callum Fletcher is a member of the Federal Department of Agriculture and Water Resource's Plant Health Surveillance Consultative Committee, joining representatives from Growcom, Hort Innovation and the Grains Research and Development Corporation in providing an industry view on the White Paper investment in surveillance.

The committee also includes state government and research organisation representatives, as well as staff from Plant Health Australia and the Department of Agriculture and Water Resources' Biosecurity Plant Division.

"For the year ending June 2017, Australia produced more than 1.3 million tonnes of potatoes, with production valued at around $717 million. As such, the role of strong surveillance in the potato industry cannot be understated," Mr Fletcher said.

"Being able to collect and analyse surveillance data is critical to maintaining and expanding domestic and export markets, as we need to be able to give other states and countries scientific evidence to prove our freedom from pests and diseases.

"We need to be able to guard against exotic pests entering Australia, and find, eradicate or contain any pest or disease outbreak as quickly as possible.

"Keeping our potato industry free of pests means lower production costs, higher yields, cleaner products and better access to domestic and export markets. Whether we call it crop monitoring, checking plants for signs of pests and diseases, or surveillance, it's just good sense to keep watch."

Dr Susie Collins, Director of the Department of Agriculture and Water Resources' Plant Health Surveillance and Diagnostics Programs, said economic and social research was an important first step in building a new, improved national surveillance system.

"We know that Australia's pest-free 'clean and green' image is a strong selling point in overseas markets, but we had never tried to put an economic value on the benefits for industry in investing in plant health surveillance," Dr Collins said.

"We also wanted to know how we could work with growers and the general community to help them better understand their roles and responsibilities in regard to biosecurity."

FUNDING BENEFITS

Dr Collins said White Paper funding allowed economic research to be conducted by Deloitte Access Economics. Industry case studies were used to measure the benefits of surveillance, with an assessment made of the potential damage that could be done to horticultural exports if a National Priority Plant Pest from the Department of Agriculture's 'Top 40 exotic and unwanted' list were to become established in Australia.

The analysis looked at the grains industry and Khapra beetle and Karnal bunt; the pome fruit industry and rosy apple aphid and fire blight; and the nursery and garden industry and the giant African snail and sudden oak death.

The research found that there is a financial benefit to growers from surveillance practices, particularly in regard to recognition from Australia's trading partners of our freedom from unwanted plant pests and disease.

Dr Collins said another important step in improving surveillance in Australia was undertaking research into understanding social attitudes to biosecurity among growers and the wider community.

"Our social attitudes research found that both growers and the general public are keen to protect Australia's environment and our agricultural industries from unwanted plant pests and diseases, but are unsure what to look for, or how to find information," she said.

"People can also be keen to report something suspicious, but may not know who to talk to.

"For growers particularly, we also know that it's important to make surveillance practices relevant to their livelihoods, with a focus on improving their productivity and protecting the health of their farm business."

RAISING BIOSECURITY AWARENESS

The Department of Agriculture and Water Resources recently used these findings to develop the Biosecurity Matters 'Don't be a Jeff' social media campaign. Launched in March 2018, the animated videos show a hapless character named Jeff risking Australia's biosecurity in a range of scenarios involving fishing, farm and garden biosecurity, and travelling.

This follows the release of the 'Top 40 exotic and unwanted' campaign in 2016, with videos, photographs and other information available from the department's website to help growers and the general public identify National Priority Plant Pests (with potato growers able to learn more about zebra chip disease, potato late blight fungus, and potato cyst nematodes).

Dr Collins said working with industry to better target the 'top 40' and improve surveillance practices is a key focus of the White Paper investment.

"Other White Paper initiatives include developing automated 'smart traps' for fruit fly to working with CSIRO to identify ways that we can encourage grower-led surveillance across all plant industries.

"Our focus is on collaboration and capacity building, to ensure the lasting legacy of the White Paper investment in surveillance will be one that brings benefits to growers and the wider Australian community."

USEFUL LINKS

Access the *Potato Growers Biosecurity Manual* and other resources on the Plant Health Australia website at **planthealthaustralia.com.au/industries/vegetables-and-potatoes.**

Find out more about the Agricultural Competitiveness White Paper at **agriculture.gov.au/whitepaperbiosecurity.**

Learn more about the top 40 unwanted and exotic plant pests at **agriculture.gov.au/pests-diseases-weeds/plant.**

Report anything suspect to the Exotic Plant Pest Hotline **1800 084 881** or visit the Plant Health Australia website at **phau.com.au.**

Watch the 'Don't be a Jeff' Biosecurity Matters campaign at **agriculture.gov.au/dontbeajeff.**

INFO R&D

For more information, please contact Annette Healy, Department of Agriculture and Water Resources, on 02 6271 6449 or at annette.healy@agriculture.gov.au. This initiative is part of the Australian Government's Agricultural Competitiveness White Paper, the government's plan for stronger farmers and a stronger economy.

The Vegetable and Potato Biosecurity Program is funded by the Plant Health Levy.


L-R: Christine and Chris Gibbins. Photography by Peter Sechi.

FROM PADDOCK TO PLATE, CHRIS GIBBINS DELIVERS

Over the past 20 years, Chris Gibbins has progressed from a small fruit and vegetable shop owner in Sawtell, New South Wales to a potato grower, transport operator and wholesaler, working with local businesses and growers along the eastern seaboard. Chris speaks to Michelle De'Lisle about his three businesses and how they integrate to successfully supply potatoes and other fresh produce to the Coffs Harbour region.

The agriculture and horticulture industries often talk about the "paddock to plate" experience – discovering where our food comes from and how it makes its way to the table.

Witnessing this process on a daily basis is New South Wales potato grower Chris Gibbins. Over the past 20 years, Chris and his wife Christine have gone from owning a fruit and vegetable business in Sawtell, a little village south of Coffs Harbour on the north coast of New South Wales, to overseeing three intertwined businesses: the growing operation C&C Gibbins, interstate truck and trailer company Gibbins Refrigerated Transport (GRT) and Tutti Frutti Wholesale in Coffs Harbour.

Chris grows 60 acres of Sebago potatoes in Dorrigo, a town located on the Northern Tablelands of New South Wales. These are harvested and transported down the New South Wales coast using Chris' trucks before being packed and sorted at a farm in Bonville, south of Coffs Harbour. The potatoes are then sent to the Tutti Frutti Wholesale warehouse and processing facility, ready to distribute to consumers and businesses as needed.

A GROWING PASSION

While Chris is the Director of the businesses, he spends most of his time on the farm. There are three properties in Dorrigo, comprising beef cattle and potatoes as well as beans and pumpkin in-season.

"That's my love – the farming side of things. Growing a crop is very satisfying," he says.

Chris has an extensive background in farming. He grew up on a farm and worked on a Victorian vegetable growing operation, Bonaccord in East Gippsland, for 10 years before heading back to New South Wales to run the family business in Sawtell.

Sebago potatoes are grown because they are an 'all-rounder' that can be sold both fresh and processed. Through Tutti Frutti Wholesale, they are supplied to almost every business in the region, alongside a full range of fresh fruit, vegetables and herbs.

"We source whatever we can locally within the Coffs Coast area. We do buy direct off farms out of East Gippsland (Bonaccord) and Stanthorpe in Queensland. The produce that we can't source directly, we'll get out of the Brisbane Market," Chris explains.

Chris started his transport company 10 years ago with one truck running up to Brisbane and Stanthorpe from the farm.

"Our main aim when we started was to just bring produce back from Brisbane, but we've gotten to the stage where we have a daily service to Brisbane and Sydney, into the markets. Most of the freight is blueberries, bananas and cucumbers."

There are now six trucks in the GRT fleet, reliably connecting Tutti Frutti Wholesale with growers and markets along the east coast of Australia.

"We're doing the full deal from paddock to plate, straight to the consumer. It's vertically integrated: we can control it, we can see it, we can dine out in Coffs Harbour or Sawtell and know we're eating our own product, which is pretty satisfying," Chris says.

"We supply everyone from IGA to the smallest café; restaurant through to big clubs; hospitals; nursing homes; jails – any institution that uses fruit and vegetables."

The only time Chris puts his potatoes into the market is in December/January. This is to fill the gap in supply between Atherton in north Queensland and Thorpdale in Victoria. For the rest of the year, any older or misshapen potatoes are peeled and processed on-site at Tutti Frutti's processing facility.

GROWER CHALLENGES

There are many challenges growers face and Chris is no different, with disease control one of the major issues on his farm. Potato blight has a tendency to appear as the weather can be wet and humid, providing ideal conditions for the disease.

In addition, rising costs are a challenge, particularly in irrigation. This has meant Chris has had to implement more efficient systems with pivots to lower the pressure, thereby reducing energy costs.

To overcome increasing labour costs, Chris has invested in mechanisation. In the past two years, he has invested in a new two-row planter and new harvesters as well as adopted precision farming practices such as GPS guidance and automatic controlled spraying.

Despite these challenges, Chris has plans to expand the farm and he sees a bright future for the potato industry.

"I can see us growing more potatoes. There seems to be a fair exodus of growers in the Dorrigo area in the last 15 years and because of that, there is definitely a gap in the market in December/January (the changeover of the seasons from north to south), and currently in the winter there is a gap as well," he says.

The future of C&C Gibbins is also looking bright. Chris and Christine have four children, two boys and two girls.

"Currently the two boys are doing apprenticeships but I can see them one day returning to the farm – they just love it. It's something that it's in your blood. And the girls don't mind it either – I think it's a great lifestyle," Chris says.

PATIENCE PAYS OFF

Chris has certainly worked hard over the past 20 years to build not just one business, but three thriving interlinked operations that have a wide reach along the east coast of Australia. It is something that he is rightfully proud of.

"From our business growing from a small shop in Sawtell, with just myself and my wife who used to run it, to three businesses now with 20 staff... it has just been slow growth over 20 years. That's pretty satisfying," he said.

"It's hard work but it's rewarding in the end. I think you've got to put the hard work in yourself. It's all about customers – whatever the customer needs or wants, you do: provide service to the customers."


Dr Walter Stevenson.

FROM AMERICA TO AUSTRALIA: REFINING POTATO PEST AND DISEASE PRACTICES

For six months in 1996-97, former University of Wisconsin Professor of Plant Pathology Dr Walter Stevenson was awarded sabbatical leave to study at the South Australian Research and Development Institute. Dr Stevenson's focus was on target spot, and he spoke to *Potatoes Australia* about the project, what it involved and the observations made while in Australia.

Over 20 years ago, a project was undertaken to evaluate disease management practices used in the mid-west region of the United States under environmental conditions found in South Australia.

Spearheading this project was Dr Walter Stevenson, former Professor of Plant Pathology at the University of Wisconsin. Hosted by South Australian Research and Development Institute (SARDI) research scientist Dr Trevor Wicks, Dr Stevenson spent six months (October 1996 to March 1997) in Dr Wicks' laboratory and at the Lenswood Horticultural Centre.

Dr Stevenson's primary focus was target spot (*Alternaria solani*), a disease that leads to premature defoliation of a potato plant, yield reductions and tuber quality concerns. During the course of this project, he evaluated a range of fungicide programs for disease management, disease forecasting software used in the US and multiple potato cultivars for field susceptibility to early blight.

Refining Potato Pest Management Practices in Australia (PT00603) was a strategic levy investment under the Hort Innovation Fresh Potato and Potato Processing Funds.

CONTROLLING TARGET SPOT

Target spot (early blight) along with late blight (*Phytophthora infestans*) are the two most common foliar diseases affecting potato crops around the world. Fortunately, Dr Stevenson said target spot is the focus of control efforts in Australia.

"There are multiple fungicides available to control target spot in both Australia and the US. While in Australia, I was introduced to the fungicide, Score, which at that time was unavailable in the US," he said.

"The field studies I conducted at the Lenswood facility allowed me to compare field control with a range of fungicides, and to compare conventional spray schedules used in Australia with schedules using disease forecasting programs in the US. I also compared several potato cultivars commonly grown in Australia for their field susceptibility to the target spot pathogen."

Research was conducted in replicated field trials at the Lenswood facility, and disease progress was calculated each week of the growing season to determine which fungicide program performed acceptably and which cultivar was most/least susceptible to foliar infection. In addition to the Lenswood site, Dr Stevenson and the SARDI research team evaluated potato cultivars for target spot susceptibility at a grower site near Goolwa, South Australia.

According to Dr Stevenson, Score (with the active ingredient difenoconazole) provided successful management of target spot and highlighted the importance of having a well-conceived plan for the management of pathogen resistance.

"I also observed that the use of a disease forecasting program reduced the need for early season fungicide sprays and that application schedules based on weather parameters in the plant canopy were just as effective for disease control as I had observed in US trials," he said.

Dr Stevenson also acknowledged there was a wide range of susceptibility between potato cultivars under Australian growing conditions.

"Early maturing cultivars were the most susceptible, while late maturing cultivars were the least susceptible as judged by disease progression during the growing season. These findings are similar to what I observed in the humid environment of my home state of Wisconsin, and are an important part in refinements to disease management programs."

PROJECT REFLECTION

It has been several years since Dr Stevenson last visited Australia, but he has heard many positive comments from Australian growers about their progress in adopting new practices. He reports that he was able to evaluate some of the practices learned in Australia and successfully apply them in Wisconsin.

"Discussions with researchers in Australia turned into research in Wisconsin and eventually practices that were employed by the industry, such as monitoring pathogen load on tubers prior to harvest and storage," he said.

Dr Stevenson said his visits to Australia were a highlight of his career.

"Growers I've talked with in Australia are keen to learn about practices in other parts of the world and to adopt tools proven to be effective. Australia has many talented scientists and growers and it was a pleasure working with them, learning from them, listening to their concerns and sharing my research with them.

INFO R&D

For more information, please contact Walter Stevenson at walter.stevenson@wisc.edu.

The final report for this project is available on InfoVeg. Readers can search 'PT00603' on the InfoVeg database: ausveg.com.au/infoveg/infoveg-database to access this report.

This project has been funded by Hort Innovation using the fresh potato and potato processing research and development levies and contributions from the Australian Government.

Project Number: PT00603

OPENING OPPORTUNITIES TO BREAK INTO THE ASIAN EXPORT MARKET

The Asian Markets Fund is one of seven funds developed under Hort Frontiers, a strategic partnership initiative led by Hort Innovation that promotes cross-horticulture investment to secure the future of the Australian industry. *Potatoes Australia* spoke to Hort Innovation R&D Manager for Trade Astrid Hughes about the importance of expanding into the Asian export market and the benefits it will provide to Australian growers.

A focus on expanding its funding model beyond traditional levy investments and better equipping Australian horticulture into the future has led Hort Innovation to develop the Hort Frontiers strategic partnership initiative.

The Hort Frontiers model facilitates collaborative cross-industry research focused on longer-term, complex and traditionally under-invested themes identified as critical for the future of Australian horticulture. Hort Frontiers can invest funds from specific horticulture levies with the advice of industry, as well as the broader research and supply chain, alongside contributions from the Australian Government. While investment sources may differ, outcomes are sought which have application across the horticulture industry.

There are currently seven themes and corresponding strategic funds in Hort Frontiers: Advanced Production Systems; Asian Markets; Fruit Fly; Green Cities; Health, Nutrition and Food Safety; Leadership; and Pollination.

AN ASIAN FOCUS

Australia's fresh horticulture exports to Asia are currently worth $1.58 billion, and in 2017 made up a share of 77 per cent of the country's total horticultural exports. With this trend set to continue, it is critical that Australian horticulture is better positioned to capitalise on Asia's potential as an expanding export market.

"The Asian Markets Fund's purpose is to drive growth through sustainable investment in high value and high growth Asian markets," Hort Innovation R&D Manager for Trade Astrid Hughes said.

"The aim is to strengthen trade opportunities in the arc between Jordan and Japan and boost industry's capacity to trade through research activity that includes detailed consumer insight research, building strong relationships and increasing market access in key Asian markets. It is targeted to all horticulture industries and growers, including vegetables and potatoes.

"The Asian Markets Fund will continue to be a key enabler of activity across Asia. Specifically, non-protocol markets (Singapore, Hong Kong, Malaysia and the United Arab Emirates) will be a focus to support all horticulture industries wanting to export."

While the Asian Markets Fund is focused on boosting industry's capacity to export and building stronger relationships with key markets in Asia, Ms Hughes said it also aims to obtain vital trade data insights and deliver innovations that anchor industry's position in the market and drive efficiencies along the value chain. As a result, Hort Innovation's Trade Unit works closely with projects under the Fund.

"Hort Innovation launched this multi-million dollar initiative in 2015. The Trade Unit works with horticulture growers to identify export opportunities; provide data and insights to industry; build industry capability and capacity to export, including export readiness; undertake R&D to support market access; support government negotiations with foreign markets; and to open new markets or specific opportunities with new products or channels," she said.

CURRENT PROJECTS

Research projects that are currently taking place under the Asian Markets Fund include the Taste Australia initiative, a whole-of-horticulture brand used by industry and Hort Innovation to help increase the profile, sales and consumption of premium horticulture products in key export markets – in particular, Asia and the Middle East.

Under the Taste Australia banner, Hort Innovation undertakes export market development activities including trade shows, trade missions and retail marketing activities. Taste Australia's participation in international fresh produce trade shows usually occurs in the latter half of the year at events such as Asia Fruit Logistica in Hong Kong (AM16002) and the China International Fruit and Vegetable Fair in Beijing.

Quality of Australian produce exported to the Asian market must aim to be the best in the world. A project developed in conjunction with the Department of Agriculture and Fisheries, Queensland will endeavour to improve quality by monitoring conditions of supply chains (AM15002). It currently includes mangoes, summerfruit, citrus and table grapes.

Other projects under this Fund include the Systems Approach for Market Access, where participating industries can expect improved domestic and international market access. Assisted by economic analyses, industries will be able to identify where systems approaches will most effectively and feasibly open up new market opportunities and have a road map for implementation.

The Study of Airfreight Capacity for Australian Horticulture Exports to Asia and the Middle East is a short project building on recent studies in horticulture airfreight trends and issues. It will provide the Australian horticulture industry and related stakeholders in state and federal government as well as industry with a capacity to inform strategic and tactical investments that increase the attractiveness of airfreight to south-east Asia and countries in the Middle East.

"These all aim to boost industry's capacity to export and build stronger relationships with key markets in Asia by delivering trade data insights, driving efficiencies in the value chain and developing industry's position in market," Ms Hughes said.

It is important to note that the Asian Markets Fund complements existing industry-specific export projects and initiatives. Hort Innovation's Trade Unit has a role in supporting market access projects, coordinating activities and supporting the development of market access projects with industries. This includes the AUSVEG-managed and delivered *Vegetable Industry Export Program* (VG16061).

Ms Hughes said feedback from vegetable growers has been positive, particularly on the gains made through the AUSVEG program and the broader program of *Export Facilitators* (VG16085), which is managed by vegetablesWA.

GETTING INVOLVED

The Asian Markets Fund offers a range of opportunities for vegetable and potato growers, which will ultimately benefit the industry in the long-term. Ms Hughes said these include technical market access negotiations; access to increased global demand for Australian premium fruit and vegetables driven by Asia; and strong relationships across the supply chain ensuring a commitment to delivering high quality product.

"Additionally, there is continued investment with the current program and activity within it and we will be working with industry and advisory mechanisms to develop new concepts and briefs for future investment," Ms Hughes said.

For those growers who wish to get involved or submit a project idea, concept forms can be found online at Hort Innovation's website. Alternatively, Ms Hughes said growers are invited to speak to AUSVEG National Manager – Export Development Michael Coote or contact the Hort Innovation Trade Unit (details below).

"Hort Innovation looks forward to working closely with the vegetable and potato industries supporting and doing what we can to increase export capability," she said.

INFO R&D

For more information, please visit hortfrontiers.com.au or contact Astrid Hughes on 07 3198 6751 or astrid.hughes@horticulture.com.au, or Michael Coote on 03 9882 0277 or export@ausveg.com.au.

To submit an idea for a future project, visit Hort Innovation's Concept Proposal Form at horticulture.com.au/about/investing-is-our-business/concept-proposal-form. *Potatoes Australia* will profile each Hort Frontiers Fund in further detail in future editions of the magazine.

These projects have been funded by the Hort Frontiers Asian Markets Fund, part of the Hort Frontiers strategic partnership initiative developed by Hort Innovation, with funding from a range of co-investors and contributions from the Australian Government.

hort frontiers strategic partnership initiative | ASIAN MARKETS FUND

RETAILERS PLAY THEIR PART IN THE FIGHT AGAINST HUNGER IN AUSTRALIA

According to the *2017 Foodbank Hunger Report* – an annual snapshot of the hidden problem of food insecurity in Australia – 3.6 million Australians have experienced food insecurity in the last 12 months. To combat this, Foodbank works with the entire supply chain to capture and deliver food to Australians in need in the most efficient way, which includes working closely with the retailers to capture fresh produce.

Foodbank is Australia's largest food relief organisation, providing 67 million meals a year to more than 2,400 charities nationally. This accounts for 65 per cent of all the food distributed to charities by food rescue organisations in Australia.

Foodbank works with the entire Australian food and grocery industry – from farmers and wholesalers to manufacturers and retailers, who donate food and grocery products (including fresh fruit and vegetables), raw ingredients, packaging, production capacity or transport.

Australia's big four supermarkets also play their part in reducing waste and combating hunger, with Woolworths, Coles, Aldi and Metcash all partnering with Foodbank. *Potatoes Australia* spoke to these retailers about why they decided to get involved in this initiative, and how the produce intended for Foodbank is captured from suppliers and growers.

SUPPLY AND DEMAND

Woolworths Supermarkets Head of Produce Paul Turner acknowledged the company's commitment to reduce food waste throughout the supply chain and the growing need to address hunger relief in the community. Woolworths established a partnership with Foodbank in 2002 through a basic National Foodbank Donor Agreement.

"Late last year we entirely rewrote this agreement to bring it into line with all of the products that we sell today," Mr Turner said.

"This partnership gives us the ability to quickly and efficiently identify and divert surplus produce and goods. In the past when a product was rejected, it might sit there for some time. Now this is instantly authorised for donation, and we can facilitate the logistics in a timely manner. This helps prevent waste and gets food to people in need in its freshest condition."

Foodbank's state teams work directly with Woolworths quality assurance to identify and capture everything edible that cannot be sold.

"Being involved with Foodbank is a win-win-win: good for the environment; good for the community; and good for business," Mr Turner said.

Coles has been a proud partner of Foodbank since 2002 and over the past seven years, it has donated the equivalent of more than 15 million meals to people in need.

"We work closely with Foodbank to reduce food waste and provide nutritious meals to people facing hardship by rescuing surplus, edible food from our stores and distribution centres nationwide," a Coles spokesperson said.

"Partnering with food rescue programs helps us to combat food waste throughout our store network and ensures unsold, edible food ends up on the plates of those in need, instead of contributing to landfill."

Aldi is also a charity partner of Foodbank and since 2016, has donated a variety of products including fruits, vegetables, meat, fish, poultry, canned food and dry food that is suitable for donation.

"Retailers have a responsibility to support and assist the communities in need and also lower the risk of environment impacts associated with landfills," Aldi Corporate Responsibility Director Daniel Baker said.

"We encourage growers and industry members to make and maintain relationships with food charity partners and regularly donate surplus good quality product."

Another Foodbank retail partner is Metcash, which is increasingly expanding its donation network across the organisation and departments.

"The Foodbank philosophy of 'fighting hunger' aligns with our philosophy of creating thriving, healthy and happy communities. So for us, the partnership is a natural fit," Metcash Manager Corporate Responsibility Meredith Banks said.

Currently Foodbank is undergoing two very positive trials with Metcash, using its interstate freight channels and distribution network into regional communities to help distribute donations.

"We are actively working together with Metcash's Fresh team to raise awareness to enable more produce donations and product to be diverted to Foodbank in the instance that it can't go to stores," Foodbank General Manager – National Supply Chain Michael Davidson said.

"Two of the things that growers are often surprised to hear is that our retail partners have approved for their pre-packaged private label products to be donated to Foodbank, and that we have accounts with all major pooling equipment providers, meaning donations can be made in any of the retailers' crates. Both of these things help streamline the donation process, saving donors both time and money, and allowing Foodbank to get nutritious food to people in need as quickly as possible."

INFO

If you're not already dealing with Foodbank either locally or nationally but would like more information or to find out how you can donate, please visit foodbank.org.au.

MANAGING SEED POTATOES FOR HIGH YIELD POTENTIAL

It is that time of year again when potato planting takes place across Australian growing operations. Syngenta Solutions Development – Technical Lead Scott Mathew provides a number of tips to keep in mind when planting seed to achieve a successful crop.

The following points should serve as a timely reminder for growers intending to plant potatoes this spring. Planting quality seed will ensure your crops get off to the best possible start.

1. Secure seed early to maximise your choice and get what you want. Don't wait until you can only pick up what is left over. You may only be getting what other people don't want!
2. Buy certified seed. Certified seed has been grown according to strict standards. It is good insurance to plant seed from a certified producer, rather than taking a risk with 'home saved' or 'once off' seed sourced from a non-certified supplier. Certified seed is of a known generation, with no seed being older than five generations from the production of virus-tested mini-tubers. Many certified seed crops will have been tested for freedom of key viruses towards the end of their growth cycle. Check with your seed supplier to gain this assurance.
3. Discuss the management of the seed with your supplier. This can be important to understand when the seed was harvested so you can plan your seed storage. Generally speaking, you should aim to plant seed which has broken dormancy but has not excessively sprouted. This will mean your seed has good vigour for a healthy start.
4. Inspect seed as soon as it arrives and notify the supplier if you have any concerns.
5. Decide if you are going to apply a fungicide prior to storing seed. A new potato seed treatment called VIBRANCE PREMIUM has activity against some storage rots as well as the soil disease *Rhizoctonia* spp. and the skin blemish diseases – silver scurf, black scurf, black dot and common scab.
6. Make sure you handle seed carefully. Seed supplied in bulker bags should be put into boxes for better management, especially in a storage environment. Storage diseases such as *Fusarium* spp. (dry rot) and *Phoma* spp. (gangrene) need damage points to enter and infect the seed. Careful handling will minimise this risk.
7. After placing seed in cool storage, it is important to lower the temperature gradually. Half a degree Celsius per day is regarded as a sensible rate and the gradual temperature drop will reduce the chance of condensation. Over the storage life, ensure temperature and ventilation are maintained at optimal levels to avoid condensation, which can increase the risk of disease.
8. Monitor seed in storage and mark a date in your calendar to start warming up the seed to manage sprout growth. This will enable you to plant seed at the ideal physiological age.
9. If you didn't apply a fungicide on potato seed prior to storage, consider whether you are going to apply one prior to planting. If so, ensure you have the product 'on hand'.
10. If you are planning to cut seed prior to planting, decide what is the ideal seed piece size. Monitor the seed cutter performance to ensure uniformity in seed size; you don't want to be cutting the seed too small or large. It is also good to use a drying agent such as Firbark to aid the curing process before planting the seed.
11. When it comes time to plant, decide what plant population is best for your circumstances. If the population is too high, you might produce a crop of small tuber size. In contrast, too low a population could lead to excessive tuber size and your crop not meeting the market specifications for best returns.

Reaching out to an experienced agronomist to discuss and review your management is a great idea and can pay real dividends.

INFO R&D

For more information or to ask a question, please contact your local Syngenta Territory Manager, the Syngenta Advice Line on 1800 067 108, visit syngenta.com.au or email *Potatoes Australia*: info@ausveg.com.au. Please note that your questions may be published.

The R&D content for this article has been provided to *Potatoes Australia* to educate Australian potato growers about the most relevant and practical information on crop protection technologies and their on-farm applications.

2017 Nuffield Scholar Rufus Pilgrim's study highlighted the benefits of improving communication and cooperation across the supply chain. Images supplied by Rufus Pilgrim.

FOSTERING TRUST IN THE POTATO INDUSTRY SUPPLY CHAIN

Each year, Nuffield Farming Scholarships Trust in the United Kingdom present around 20 people with the opportunity to research topics of interest in farming, food, horticulture or rural industries. In 2017, potato industry member Rufus Pilgrim was awarded a Nuffield Scholarship which allowed him to embark on a study tour with a focus on potato supply chains. Rufus spoke to Heather Briggs about his findings.

Rufus Pilgrim is a passionate British potato industry member who completed a Nuffield Scholarship in 2017. Sponsored by the Agriculture and Horticulture Development Board (AHDB) Potatoes, he explored a wide range of potato supply chains across the world, including the United States, Canada, South Africa, Kenya and northern Europe.

His study highlighted the benefits of improving communication and cooperation up and down the supply chain, particularly where retail markets are mature, such as in Australia and Britain. Rufus says building good relationships within the supply chain can foster trust, and he urges stakeholders – including those in Australia – to think longer-term, and encourage the industry to invest and push forward.

"The supply base needs to be better looked after, with better long-term contracts and agreements. If you want people to invest, you need to give them the confidence to do so," Rufus said.

"The potato industry needs to develop a culture where the best are recognised and rewarded.

"People will remember good quality potatoes for much longer than they will remember the price they paid. This means we need to keep challenging ourselves to see how we can deliver ever better quality and value for our customers."

NORTHERN EUROPE FINDINGS

On Rufus' first trip to the Netherlands, Belgium and Germany, he discovered that the cost of production for processing potatoes is significantly cheaper in northern Europe than in Britain.

"This is partly because there is more interest in cooperation and collaboration between growers," Rufus explained.

"Additionally, many smaller farmers share ideas, machinery and other resources, which helps to keep costs down."

He also found that processors showed commitment and support to their suppliers and, unlike Britain, it is often the processor that undertakes the grading and splitting of the crop, thereby helping growers to keep their costs down.

"I found these enterprises often use family labour, which makes a big difference in labour costs compared with many British growers."

However, Rufus noted that not everything was cheaper; seed potatoes were expensive, and machinery was sold at similar prices to Britain.

He found Belgium in particular to be highly competitive, which may be partly to do with the country's obsession with keeping on top of its game. This included having realistic expectations, pointing out that the Belgian growers have more modest cost bases and returns than many of their United Kingdom counterparts.

In addition, his study revealed that one of the threats to the potato market is volatility.

"Volatility works out expensive and can stifle opportunity. Growing to contract would help remove that volatility so growers could have more confidence in investing in the future, thereby creating efficiencies to improve our resilience in the supply chain," Rufus said.

"It could also help promote better commercial sustainability, including in Australia."

The downside to this evolution would be that growers without contracts would have to deal with even greater volatility.

UNITED STATES AND CANADA

Rufus pointed out that the British potato sector has become very sophisticated. Somewhat surprisingly, he found the United States had a very different market – it was unsophisticated, quality was indifferent and consumers had little choice, he reported.

Visits to the potato growing areas of New Brunswick and Prince Edward Island in Canada showed them to be a little more developed, with some premium quality potatoes emphasising nutritional qualities but overall, he still found it very simple.

"I looked at North America as part of my research as I was expecting to see both large-scale organisations and a high level of sophistication over there. The scale was there, but there was less sophistication," Rufus said.

Nevertheless, he noted, North American customer tastes are starting to develop. Some consumers are becoming more discerning in their choice, creating an emerging market in the United States.

"Standard and traditional offerings are slowly being accompanied by colour variants and niche varieties, providing more diversity," he said.

"It is interesting to note that this is succeeding in a market normally dominated by brands. Rapid sales growth of these novel varieties follows a heavy promotional emphasis on the health and nutritional aspects of potatoes, reinforced by provenance and quality messages.

"Before my visit, I had not appreciated before just how sophisticated we are in Britain."

AFRICA

Rufus' visit to South Africa revealed the country had widely diverse markets – there were large sections of the population living in poverty, but there was also an emerging middle-class sophistication.

In Kenya, Rufus found concerns about ensuring the long-term availability of food and nutritional security to be crucial to a growing population. He saw the country as needing investment in improving agronomic techniques to raise agricultural productivity.

He pointed out that the emerging potato sector in Kenya is already receiving some institutional support from the National Potato Council of Kenya as it is helping small producers connect to customers.

Nevertheless, the country first needs to invest in building a logistics infrastructure which are the primary factors at this stage in the country's development, he said.

NUFFIELD SCHOLARSHIP OPENS DOORS

Rufus, who has been working with potatoes for 25 years, found the Nuffield experience inspiring.

"Meeting other Nuffield Scholars offers an incredible opportunity to network with some of the agricultural industry's most forward-thinking people and each one leaves you with something new to think about," he said.

"It opens a lot of doors that no academic course could ever do."

QUICK FACTS: RUFUS PILGRIM, 2017 NUFFIELD SCHOLAR

- Studied agriculture at Shuttleworth Agricultural College.
- Has worked in the British potato sector since 1993.
- Commercial Director for the pre-pack potato division at R.S. Cockerill, United Kingdom.

NUFFIELD FARMING SCHOLARSHIPS TRUST

The Trust provides scholarships for people working in agriculture, associated industries and the rural community, offering them the opportunity to travel across the world to expand knowledge and understanding of agriculture.

For more information go to nuffieldscholar.org.

INFO R&D

For more information, please contact Rufus Pilgrim at rufus.pilgrim@cockerill.co.uk.

FOCUS ON PROTECTING AUSTRALIA'S BORDERS

At times, it can be challenging to maintain strict biosecurity systems and prevent unwanted pests from entering Australia. Despite this, it is possible to eradicate pests and successfully intercept others at our borders, as AUSVEG Biosecurity Adviser Dr Kevin Clayton-Greene explains.

With an ever-increasing volume of trade and tourism numbers, it can sometimes lead to a feeling of helplessness when it comes to maintaining best biosecurity practices.

However, it is not all doom and gloom and a number of successful interceptions and eradications point to the importance of continued vigilance and the effective operation of the system.

Of particular note is the successful eradication of brown marmorated stink bug (BMSB) at multiple locations in Australia. This pest, which more often than not arrives as a passenger on imported goods, has the potential to not only be a severe agricultural pest, but due to its habit of seeking refuge in buildings for overwinter hibernation, can literally invade homes in the thousands.

A recent article in *The New Yorker* magazine noted how owners of a house had left their door open one evening and upon entering the room later on, found it literally crawling with thousands of these pestiferous creatures (see box-out for more information).

Readers of *The Front Line* e-bulletin will also be aware of the fact that these pests are also noted to be destructive to a wide variety of fruit and vegetable crops and are difficult to control. Much of eastern Australia, south of the tropics and along the coastal/agricultural fringe provides a suitable habitat for the pest.

INDUSTRY PREPAREDNESS

AUSVEG is seeking to have this pest formally categorised to determine funding allocations for future incursions. In order for this to occur, AUSVEG led the formation of a small multi-industry taskforce to collate the necessary evidence that forms the basis of categorisation.

This was not an insubstantial task. Taking over several months to develop, it has been completed and there will be a formal consideration of the document by all affected parties in the coming months. At this meeting, parties will be asked to consider the information provided in this package and reach agreement as to whether BMSB is a category 1,2, 3 or 4 pest.

Appropriate funding splits are 100 per cent government funding for eradication costs under category 1; 80 per cent government and 20 per cent industry for category 2; 50:50 for category 3; and 20:80 for category 4.

Should parties fail to agree on a decision, then the matter is passed to the Board of Plant Health Australia for determination.

This process is an important part of the functions of the Emergency Plant Pest Response Deed, and has ramifications for all levy payers.

BROWN MARMORATED STINK BUG: A DESTRUCTIVE AND INVASIVE PEST

In March this year, *The New Yorker* journalist Kathryn Schulz wrote an article entitled 'Home Invasion', investigating how the brown marmorated stink bug reached the United States and the effect that it has had on residents in infested towns as well as the country's agriculture and horticulture sectors.

She spoke to two South Carolina residents, Pam Stone and Paul Zimmerman, who discovered hundreds of stink bugs in their home. A few years earlier, a wildlife biologist in Maryland counted all the brown marmorated stink bugs he killed in his own home; he stopped the experiment after six months and 25,205 stink bugs.

The full report can be found on *The New Yorker* magazine website: newyorker.com/magazine/2018/03/12/when-twenty-six-thousand-stinkbugs-invade-your-home.

INFO R&D

For more information, contact AUSVEG on 03 9882 0277 or email info@ausveg.com.au.

AWARDS, AGREEMENTS AND ARRANGEMENTS

Understanding the various industrial instruments that apply to your horticulture business – and how to apply them properly – is one of the cornerstones of compliance with workplace relations laws. The team from Growcom's Fair Farms Initiative explains more.

There are serious penalties for breaching the Fair Work Act, the National Employment Standards, Awards and Agreements, so grower-employers must get it right.

AWARDS

Vegetable businesses would employ and pay farm workers according to the Horticulture Award. Growers may be aware that the Fair Work Commission has been reviewing and negotiating changes to the Horticulture Award since 2014.

The revised Award is close to being finalised and may be enacted in the coming months.

Industry is anticipating some significant changes to the Award. For example, casual work undertaken outside the hours of 5:00am and 8:30pm (or 4:00am and 7:30pm in Queensland during daylight savings time) may attract a 15 per cent loading for each hour. Loading on overtime above 304 hours in an eight-week period could be up to 50 per cent. Negotiations around overtime provisions for casuals are ongoing.

Permanent and piece workers would not be impacted by these changes.

ENTERPRISE AGREEMENTS

Growers may consider making an enterprise agreement as an alternative to the Award. This is a form of agreement which is negotiated with your employees, then assessed and certified by the Fair Work Commission. The resulting agreement sets out all employment conditions for your enterprise.

When a workplace has a certified agreement in place, it overrides the Award. However, the base pay rate in the agreement cannot be less than the base pay rate in the award and the National Employment Standards still apply.

Certified agreements continue to apply until they are terminated or replaced, even if their nominal expiry date has passed.

INDIVIDUAL FLEXIBILITY ARRANGEMENT

Another option is an Individual Flexibility Arrangement (IFA) – an agreement made with an individual employee that does not need to be approved by the Fair Work Commission.

IFAs allow for variations to the effect of modern awards or enterprise agreements. They are aimed at meeting the genuine needs of employers and individual workers, while ensuring minimum entitlements and protections are not undermined.

An IFA can only be entered into after the employee has commenced work and it cannot be a condition of employment.

IFAs must be made using the appropriate methods, meet the National Employment Standards and achieve the Better Off Overall Test (BOOT). If the Fair Work Ombudsman finds an IFA does not meet the criteria, penalties may be imposed on the employer.

An employer must ensure that the employee is better off overall with the IFA than without it, compared to their award or registered agreement at the time the IFA was made. To do this they should look at the financial and non-financial benefits for the employee, as well as the employee's personal circumstances.

The employer or employee can request to enter into an IFA. An employee can refuse to enter into an IFA and cannot be discriminated against for refusal.

An IFA can only be used to vary the following clauses of the award:

- Arrangements for when work is performed, such as working hours.
- Overtime rates.
- Penalty rates.
- Allowances.
- Leave loading.

An IFA made under a flexibility term in a modern award or enterprise agreement must:

- Not include anything unlawful.
- Be genuinely agreed upon by you and the relevant employee.
- Not require approval by a third party (other than a parent or guardian if the relevant employee is under 18 years of age).
- Make the relevant employee better off overall than if no arrangement was in place.
- Be able to be terminated by either you or the relevant employee.
- Be set out in writing.
- Be signed by both you and the employee (or their parent or legal guardian if they are under 18 years of age).
- Be provided to the relevant employee within 14 days of the arrangement being agreed upon.

An agreement needs to include a provision for an IFA. This clause in the agreement will state what clauses can be varied using an IFA.

INFO R&D

Further information regarding your obligations as an employer is available at fairwork.gov.au and growcom.com.au.

The Fair Farms Initiative is delivered by Growcom, in collaboration with industry and supply chain stakeholders. It is supported with seed funds from the Fair Work Ombudsman community engagement grants program.

REGIONAL UPDATES

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At the time of writing this *Regional Update*, it is extremely dry in the Crookwell area. I appreciate that we are not alone in this predicament but it can have serious implications down the track. Very few irrigation dams have adequate water stored for next season's crops. All growers are hoping for substantial rain soon to replenish the dams and put moisture back into paddocks so fallowing can begin.

At this stage, most seed crops have been harvested with mainly early generation seed still left to dig. With a run of -5°C frosts, ground storage of potato seed is a good option for growers.

Not only does the extreme cold hold dormancy of potato seed, it also acts as a disruptive when it comes to pests and disease. We all whinge about the frosts and their detriment to pasture but they are a significant environmental aid when it comes to lowering the population of harmful insects.

We are hopeful though that winter is coming to an end and with it, spring rain will put us back in a good position.

Time will tell.

AUSVEG VIC

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VGA trading as AUSVEG VIC

AUSVEG VIC State Manager Tom Cohen recently attended the annual Hort Connections conference, which was held in Brisbane from 18-20 June. This conference and trade show attracted around 3,000 people from across Australia, and focused on halving waste and doubling productivity by 2030.

AUSVEG VIC would like to congratulate all of the award winners at the National Awards for Excellence. Congratulations also to the Victorian recipients for their outstanding achievements in the industry, including Chris McLoghlin – Young Grower of the Year; Danyang Ying – Industry Impact Award; East Gippsland Vegetable Innovation Days – Community Stewardship Award; and Jessica Page – Researcher of the Year. Hort Connections will be held in Melbourne next year, and the date has been set for 24-26 June 2019 at the Melbourne Convention Centre. AUSVEG VIC can see the huge potential of showcasing our state to the rest of Australia's horticulture industry.

In other news, AUSVEG VIC has launched its new website which has been designed for growers to access new research information in a central location. The site allows growers to find out about events happening across Victoria and has access to industry resources to help growers maximise the information available to them.

Finally, on 18 June, the Victorian Parliament passed the Labour Hire Licensing Bill, which will (when introduced) have an impact on growers across the state in terms of how labour is sourced on your property. If you would like to know more, please contact AUSVEG VIC.

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AUSVEG SA is currently facilitating a group energy tender on behalf of South Australian growers. A similar process was recently run in the South Australian hotels industry and was able to achieve significant savings for businesses. The theory is that by combining the electricity purchasing power of a number of businesses, we can facilitate a tender process with the major retailers and obtain savings for SA growers. The more growers who sign up, the better the eventual deal will be. AUSVEG SA has engaged energy broker Choice Energy to run the tender. Interested growers can participate by contacting the AUSVEG SA office and obtaining an application form. The growers then submit this with a copy of their energy bill.

AUSVEG SA continues to work with the South Australian Government and has established strong relationships with relevant ministers. In particular, we are working to either amend or repeal labour hire legislation which was introduced last year under the previous government. Industry had a number of concerns about this legislation at the time and was concerned that enforcement provisions contained in the legislation could lead to prosecution of growers under the Act. We had concerns that growers would feel the brunt of enforcement in the event a labour hire company was found to do the wrong thing and there was no limit of liability under the Act, which meant that growers were potentially able to be held accountable for issues with a contracted labour firm.

Seed Potatoes Victoria

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Thanks to the excellent harvesting weather, this season has come and just about gone for most seed growers. Farming is a pleasure when you don't have to fight with the elements! The quality of the seed has been excellent this year, demand has been good and most lines of seed have been placed, if not delivered.

SPV continues to work on behalf of its members to improve the seed supply agreements and contracts in place with mainly corporate customers. Grower members have expressed concerns with some of the arrangements and agreements, and work is underway to respond.

The ViCSPA potato conference is coming up soon. SPV would encourage growers of seed or ware potatoes to consider spending some time listening to well-selected speakers, picking through the trade show and just yarning about spuds and life in general with other growers and industry people. Details are available on the ViCSPA website.

Liz Wharton of Sebright Adventures has put together a great potato study tour package incorporating the conference. Starting in Melbourne with the conference and then travelling to Ballarat and Gippsland, Liz has put together an interesting and eventful package, with many and varied options to participate. It's well worth checking out. Contact Liz on 0484 902 702 or email sebrightadventures@outlook.com for the itinerary and more information.

As with all grower-based representative groups, SPV relies on the input and direction that can only come directly from the growers it represents. There is no better way to manage this than by holding regular district meetings to include as many growers as possible who are prepared to use the group to address issues best dealt with as a unit.

The state committee would urge all seed growers to make use of the effective committee of delegates who meet regularly to provide a mouthpiece for the Victorian seed potato industry and to act on member issues.

CALENDAR

12-13 SEPTEMBER: POTATOEUROPE 2018

Where: Germany

What: PotatoEurope is an annual event for the European potato industry, organised in rotation in Germany, Belgium, France or the Netherlands. PotatoEurope 2018 is the international information platform for the potato value chain, such as potato growers, equipment manufacturers, consultants and traders. The theme for this year's event is *Ideas, impulses and innovations*.

Further information: potatoeurope.de

24-26 JUNE: HORT CONNECTIONS 2019

Where: Melbourne Convention and Exhibition Centre

What: Save the date for Hort Connections 2019, where AUSVEG and the Produce Marketing Association Australia-New Zealand (PMA A-NZ) will once again join forces to present the biggest event in Australian horticulture, which is set to deliver another world-class program and trade show to growers and whole-of-supply-chain companies alike.

Further information: hortconnections.com.au

18-20 OCTOBER: PMA FRESH SUMMIT CONVENTION & EXPO 2018

Where: Orlando, Florida USA

What: Connect with more than 1,000 exhibitors and 19,500 attendees from over 60 countries. Meet with experts, leaders and decision makers from every link of the supply chain and see how today's bright ideas are reshaping tomorrow's fresh produce and floral landscape.

Further information: pma.com/events/freshsummit

24-27 MAY 2021: WORLD POTATO CONGRESS

Where: Dublin, Ireland

What: The 11th World Potato Congress will be held in Dublin, Ireland alongside the Europatat Congess, and it is expected that 1,000 growers, researchers, producers, traders, processors and manufacturers will attend. The event will focus on "the changing world of the potato" and will take into consideration issues such as climate change, sustainable production, food security and making use of modern technology.

Further information: potatocongress.org

YOUNG POTATO PEOPLE

In writing this little column in recent times, I have been tending to lean towards carrying on about the future: new technology; preparing for the future; and grand plans to improve your business. I have at times forgotten about the past when jotting down my rambling thoughts.

The past is a massive wealth of knowledge forged from many years of successes and misfortunes. We use the past to push forward into the future. It is used as a tool to see what has worked and what has not. I believe the most dangerous saying in a business is "we've always done it this way" – this term negates the need for improvement in the same way that not going to the doctor doesn't mean you aren't sick.

Improvement comes from trying new things, trying something slightly different to reduce the time it takes you to do a task and freeing you up for a job you've been putting off. Or buying new equipment to make things a little easier on yourself, removing a small amount of bending or twisting so you don't go home every night in as much pain.

The years of experience that have come before this moment is what we need to look at to make these small changes. They don't need to be massive changes, such as changing your entire operation overnight from potatoes to growing organic hemp. It's small changes that can often make the biggest difference.

If we use the information from the past and learn from our mishaps, we become a little better at what we do. And if we continue to do this all the time, we become a lot better at what we do.

Rather than closing your eyes and putting your fingers in your ears when something new comes along, look at the past and decide if it will help you succeed in the future.

I've decided to end this with an inspirational quote from an eternal optimist, George W. Bush, who once said: "If we don't succeed, we run the risk of failure."

- Stu

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