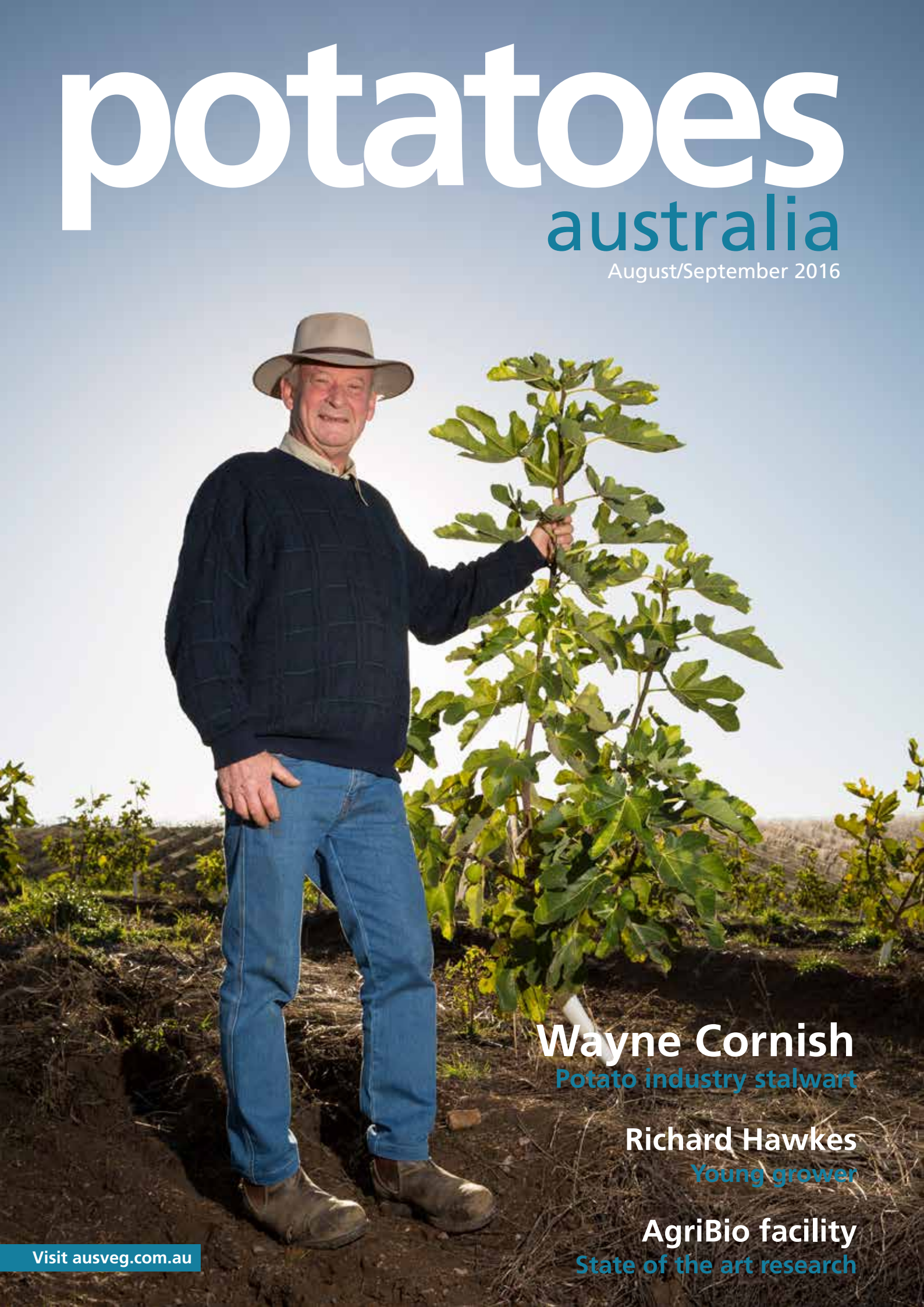
potatoes australia

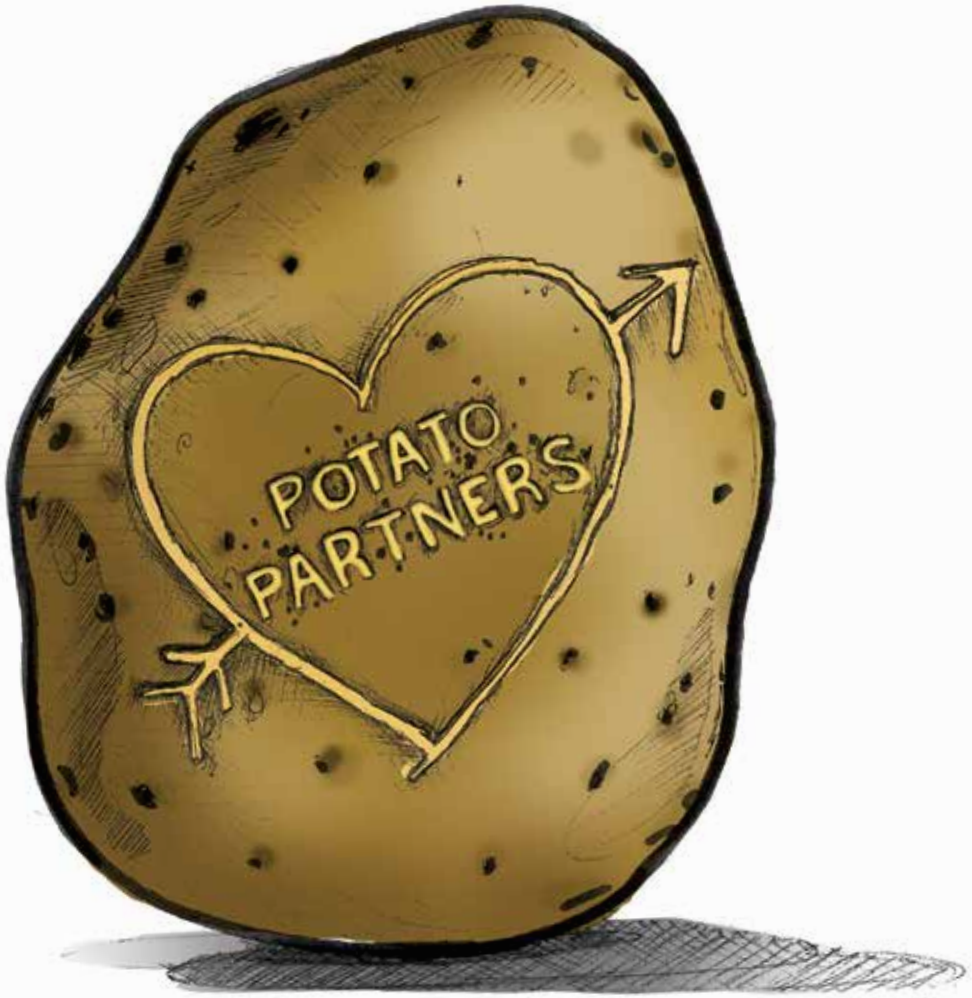
August/September 2016



Wayne Cornish
Potato industry stalwart

Richard Hawkes
Young grower

AgriBio facility
State of the art research



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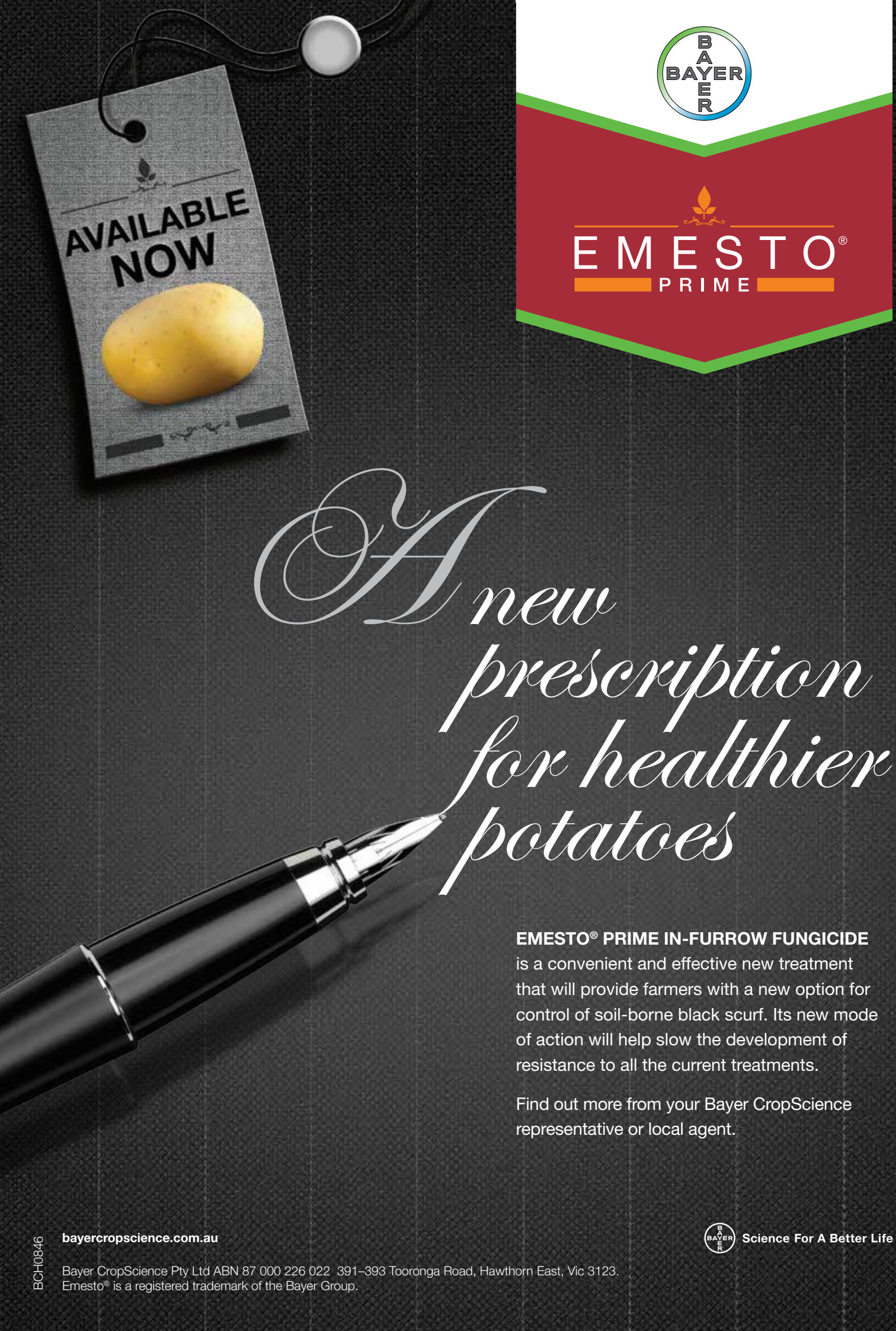

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Geoff Moar

AUSVEG Chairman

It was wonderful to see more than 1,500 delegates from Australia and around the world make their way to the Gold Coast for the 2016 National Horticulture Convention, marking the highest number of attendees to date. Held from 23-25 June at RACV Royal Pines, this year's Convention surpassed all expectations and was deemed to be a great success.

For the first time, AUSVEG joined forces not only with Apple and Pear Australia Limited, but also with the Central Markets Association of Australia in partnership with Fresh Markets Australia, Growcom, Australian Organic, Persimmons Australia and Onions Australia to co-host what was a truly united event for the Australian horticulture industry and its members.

I would like to take this opportunity to thank our National Horticulture Convention co-hosts, strategic partners, delegates, exhibitors and speakers for their contribution to the overall success of the event.

A range of networking events were also organised throughout the Convention, culminating in the National Awards for Excellence Gala Dinner, where the vegetable, potato, apple and pear industries came together to recognise the best of the best.

There are many hard-working growers and industry members who contribute greatly to the development of the Australian horticulture industry, and this year, AUSVEG recognised a former colleague of mine who has given his absolute dedication to advancing the Australian vegetable and potato industries.

Many of you may remember Wayne Cornish, a former potato grower from South Australia, who was the deserving winner of this year's AUSVEG Lifetime Achievement Award.

One of Wayne's notable accomplishments was his work in introducing the research and development levy for potato growers in the lead-up to a vote, which eventuated positively as the National Potato Levies. Wayne was also involved in the creation of AUSVEG as we know it today, becoming one of the Founding Directors of the company and later becoming the President of the South Australian Farmers Federation. His commitment to the industry also extended to a national level, as he took on the role of Vice President of the National Farmers Federation.

We tell Wayne's story in this edition of *Potatoes Australia* and look back on his many contributions to the industry, including how he helped to establish the name 'AUSVEG'. It is clear that without people like Wayne, AUSVEG and the broader industry would not be as successful as they are today.

I was very pleased to present this prestigious award to Wayne at the National Awards for Excellence on the Gold Coast in June and thank him for his selfless contribution to the Australian vegetable and potato industries over many years.

Geoff Moar
Chairman
AUSVEG

Simon Bolles

AUSVEG Interim CEO

We are extremely lucky that Australia is home to some of the best and brightest researchers and scientists in agriculture. These individuals play an essential role in ensuring that the Australian potato industry is on the front foot of cutting-edge R&D that will not only protect our growing operations from destructive pests and diseases, but ensure they continue to thrive into the future.

This is particularly evident at the AgriBio facility located at La Trobe University's Bundoora campus in Victoria. Opened in 2013, this state of the art facility is a central meeting point for R&D in the agricultural biosciences sector. It provides around 400 scientists with purpose-built facilities to conduct their work, which ranges from DNA sequencing to plant and pest research. Importantly, these researchers also mentor students who are studying PhDs or Masters degrees, paving the way for the next generation of potato researchers to enter our industry.

The Microbiology team is led by Dr Brendan Rodoni and Dr Fiona Constable, who are working directly with potato growers to develop industry research further. This 'on the ground' feedback gives the team some guidance in terms of the most important areas of research to pursue.

This is undoubtedly a very exciting space in the R&D sphere and I would like to thank both Dr Rodoni and Dr Constable for allowing the team at *Potatoes Australia* to tour the facility. I can also assure readers that we will be keeping an eye on future developments at AgriBio.

Meanwhile, it was a pleasure to attend yet another successful 2016 National Horticulture Convention in June. A record 1,500-plus delegates converged on RACV Royal Pines on the Gold Coast and were drawn to a number of insightful and engaging speaker sessions throughout the event.

In addition to the speaker sessions, the 2016 Trade Show also proved to be incredibly popular among delegates and industry organisations. With over 100 booths to explore, it was great to see so many creative displays featuring products and services for the horticulture industry. The information and networking presented during the Trade Show will no doubt benefit industry leaders, growers and businesses long after the event has concluded.

Finally, we welcome two new columns to *Potatoes Australia*, dedicated to the processing and certified seed potato sectors of the industry. Both columns will deliver a wider perspective of the potato industry, providing growers with practical and timely advice to ensure they are fully prepared to tackle the next season efficiently and profitably.

In this edition, the Potato Processors Association of Australia and ViCSPA have shared their expertise in their respective industries and we look forward to communicating their R&D news with our readers in future editions.

Simon Bolles
Interim Chief Executive Officer
AUSVEG

All research and development projects are facilitated by Horticulture Innovation Australia Limited in partnership with AUSVEG, and in relation to processed potatoes also the PPAA, and are funded by the National Potato Levy and/or voluntary contributions from the industry. The Australian Government provides matching funding for all Hort Innovation's R&D activities. For further information visit:

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FRONT COVER:

Wayne Cornish

Photograph by Andrew Beveridge

In this edition of *Potatoes Australia* we welcome two new columns focusing on the processing and certified seed potato sectors of the industry.

The role the Potato Processors Association of Australia plays in the industry is explained on page 18, alongside a checklist for potato growers to prepare for the upcoming season. Meanwhile, ViCSPA explains the benefits of purchasing certified seed potatoes (page 24).

In other R&D news, *The Front Line* investigates the impact of the Colorado potato beetle and explains why it has been a destructive pest across parts of the globe (page 26). We also bring readers up-to-date on a new soil phosphorus test for the potato industry (page 28) and review the main symptoms and management of Bacterial wilt (page 34).

Potatoes Australia recently visited the AgriBio facility at La Trobe University in Melbourne, where Dr Brendan Rodoni and Dr Fiona Constable from the university's Biosciences Research Division explained what projects are undertaken at the facility. It is great to see that there is plenty of research being conducted for the potato industry (page 20).

International R&D updates are also included in this edition, with the UK's Agriculture and Horticulture Development Board announcing funding for four new projects addressing challenges in soil and water management (page 25). You can also turn to page 32 to read about a new research project that will aim to uncover the range of plants that play host to the Tomato-potato psyllid, apart from Solanaceae.

This edition, the spotlight falls on former potato grower Wayne Cornish from South Australia, who received the AUSVEG Lifetime Achievement Award at the 2016 National Awards for Excellence in recognition of his lasting contributions to the industry (page 22). Our young grower is Richard Hawkes from Boneo in Victoria, and he explains how he came to be involved in the potato industry as well as putting forward ideas for growth within the industry (page 30).

Finally, if you missed the 2016 National Horticulture Convention, we have included a full wrap-up of the event (page 10) and National Awards for Excellence winners (page 12).

From thought to reality: Submitting a potato R&D concept to Hort Innovation

POTATO GROWERS AND INDUSTRY MEMBERS ARE STRONGLY ENCOURAGED TO CONTRIBUTE IDEAS AND CONCEPTS FOR FUTURE LEVY-FUNDED R&D PROJECTS TO HELP IMPROVE OR INNOVATE AREAS OF THE FRESH AND/OR PROCESSING POTATO INDUSTRY. *POTATOES AUSTRALIA* PROVIDES AN OVERVIEW OF THE PROCESS.

Horticulture Innovation Australia (Hort Innovation) invests approximately $100 million annually into research and development and marketing programs to provide benefit to Australian horticulture growers, the wider horticulture sector and the community.

Now, potato growers and industry members can take advantage of a straightforward process to submit R&D concepts to Hort Innovation, where they may be commissioned as projects funded by the National Potato Levies.

A thorough process

The first step is for growers, processors and industry members to **submit their ideas** for future R&D projects through Hort Innovation's Concept Proposal form, which is then considered at an advisory panel meeting.

Hort Innovation employs a transparent and robust industry advisory process to guide R&D investments in the industry, and obtains industry advice for each R&D project funded by the National Potato Levies.

An **advisory panel** consisting of growers, processors, industry stakeholders and Hort Innovation representatives will ensure that R&D project proposals align with the strategic investment priorities for the fresh and processing potato industries.

The advisory process ensures each project is evaluated on validity, is assessed on its relevance and has undergone a cost-benefit analysis. The representatives on this panel will ensure that investment continues to build on industry values and strategy.

If the concept is approved by the advisory panel, it is then put to tender. The **tender process** allows service providers, industry members and other stakeholders to submit a tender bid to facilitate the project.

Hort Innovation assesses each tender bid to find the most appropriate service provider to conduct the R&D project and achieve the desired outcome. Once a bid has been accepted, the service provider then **begins the project** and provides regular progress reports to Hort Innovation. The **results** of the project are then communicated to the wider industry for implementation on-farm.

For more information or to submit an idea through Hort Innovation's Concept Proposal form, visit horticulture.com.au.

This communication has been funded by Horticulture Innovation Australia Limited using the Fresh Potato Levy and funds from the Australian Government.

Project Number: PT15007

Horticulture Innovation Australia

STRATEGIC INVESTMENT PRIORITIES FOR THE AUSTRALIAN POTATO INDUSTRY

The four underlying objectives for the fresh potato industry are:

Objective 1: Increased innovativeness.
Objective 2: Increased usage of practical research findings across the industry.
Objective 3: Improved communication, enhanced market understanding and skills.
Objective 4: More effective advancement of the cause of the industry.

The four underlying objectives for the processing potato industry are:

Objective 1: Increased industry competitiveness.
Objective 2: Increased usage of practical research findings across the industry.
Objective 3: Improved communication and market awareness.
Objective 4: More effective advancement of the cause of the industry.

THE NATIONAL POTATO LEVY AT WORK

WHO PAYS THE NATIONAL POTATO 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?

There are now two pools with different funding priorities.

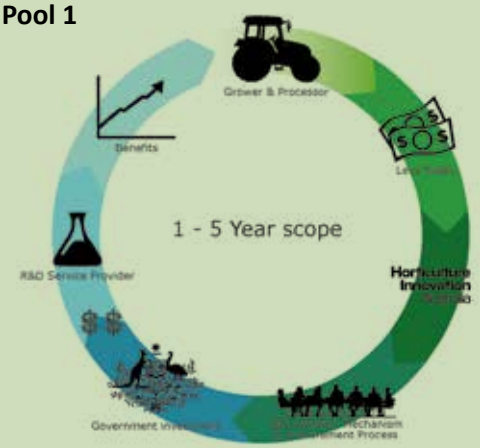
Pool 1 is funded by grower levies with contributions from the Federal Government. This pool has a **one to five year scope** and will invest in applied R&D designed to directly benefit growers. This includes pest and disease management and biosecurity matters, with findings communicated through a variety of channels including *Potatoes Australia.*

Pool 2 has a **one to 15 year scope** and matches strategic co-investment funds with at least $20 million, at the Pool's maturity, of government seed funds annually. This pool aims to address multi- and cross-industry challenges and opportunities of strategic and long-term importance to Australia's horticulture industries.

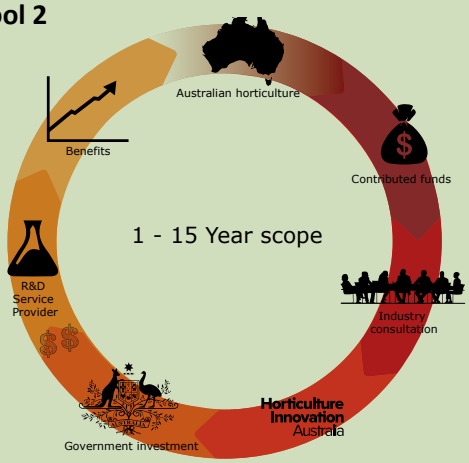
Five 'Foundation Funds' have so far been established in Pool 2 and will work with an expert panel to direct strategic projects. They are:

- **The Leadership and People Development Fund**
- **The Fruit Fly Fund**
- **The Asian Markets Fund**
- **The Green Cities Fund**
- **The Health, Nutrition and Food Safety Fund**

Pool 1



Pool 2



HOW CAN GROWERS GET INVOLVED?

Potato growers play a fundamental role in advising on the allocation of both levy and co-investment funds, and will be engaged in extensive consultation with Hort Innovation in regional grower meetings, industry-specific consultation programs and individual grower and grower group consultation.

Growers can also submit ideas for R&D projects via Hort Innovation's Concept Portal at horticulture.com.au/concept-proposal-form.

For more information about the National Potato Levies, visit ausveg.com.au/rnd/thelevysystem/potatolevy.htm.

AUSVEG

This communication has been funded by Horticulture Innovation Australia Limited using the Fresh Potato Levy and funds from the Australian Government.
Project Number: PT15007

Horticulture Innovation Australia


Dow AgroSciences Managing Director Rob Kaan.


2016 Trade Show.

2016 National Horticulture Convention gives growers and suppliers a chance to shine

IT WAS YET ANOTHER RECORD-BREAKING EVENT WHEN AUSVEG AND SIX INDUSTRY BODIES JOINED FORCES TO CO-HOST THE 2016 NATIONAL HORTICULTURE CONVENTION FROM 23-25 JUNE. MORE THAN 1,500 DELEGATES CONVERGED ON THE GOLD COAST'S RACV ROYAL PINES FOR THREE EVENTFUL DAYS THAT INCLUDED NETWORKING, SPEAKER SESSIONS AND RECOGNISING OUTSTANDING GROWERS AND INDUSTRY MEMBERS.

THURSDAY 23 JUNE

The stage was set for the Australian horticulture industry's biggest event, with delegates making their way to the Gold Coast's RACV Royal Pines for the 2016 National Horticulture Convention.

For the first time, the event was hosted by AUSVEG and Apple and Pear Australia Limited (APAL) alongside the Central Markets Association of Australia in partnership with Fresh Markets Australia, Growcom, Australian Organic, Persimmons Australia and Onions Australia. This collaboration signified the event was well on its way to becoming a true National Horticulture Convention, as the nation's vegetable and potato growers took hold of the opportunity to discuss industry issues with their domestic and international counterparts.

During the Welcome Reception, former AFL footballer and Master of Ceremonies Peter Daicos introduced Federal Trade and Investment Minister Steven Ciobo MP, who discussed the important role of Australian agriculture into the future. The welcome ribbon was then cut, marking the official opening of the 2016 Trade Show.

With more than 100 industry booths on display, there would certainly be plenty to talk about over the coming days.

FRIDAY 24 JUNE

Friday began with an outdoor breakfast, where Syngenta Head of Speciality Crops Bob Mullins spoke about Tervigo insecticide, which can be used to effectively control Root-knot nematodes. This was followed by entertainment from Linsey Pollak, who captured the crowd's attention by making and playing a variety of home-made instruments, including a carrot clarinet.

After breakfast, the first round of speaker sessions kicked off with Australian Competition and Consumer Commission (ACCC) Executive General Manager of the Consumer, Small Business and Product Safety Division, Nigel Ridgeway, who explained how the ACCC will work with industry to enforce new initiatives such as clearer country of origin labelling requirements.

Freshlogic Managing Director Martin Kneebone then spoke about the opportunities and challenges of marketing fresh fruit and vegetables to compete in the $9 billion snack food industry. He was followed by Horticulture Innovation Australia (Hort Innovation) Marketing Manager Craig Perring, who addressed the audience on 'The Secret Serve' onion marketing campaign.

Peracto's Chris Monsour outlined the challenges of insecticide resistance, as well as the importance of understanding chemical options and developing a resistance management strategy.

Timely discussions

American journalist and founder of the Genetic Literacy Project Jon Entine also captured the audience with his thoughts on genetic modification and precision farming. His controversial presentation also sparked debate from the audience.

Growcom Chief Advocate Rachel Mackenzie then brought labour hire concerns to the fore and advised growers to do their research on labour hire companies as well as be aware of their own responsibilities.

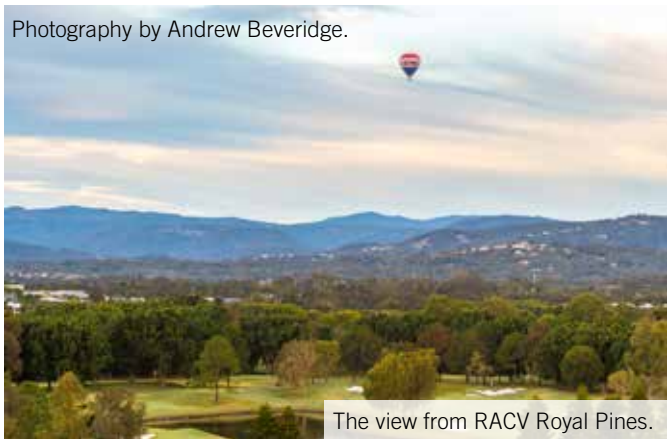
The keynote speaker of the 2016 Convention was Dow AgroSciences Managing Director Rob Kaan. Mr Kaan's presentation outlined behaviours that brought about the demise of innovations in different industries and echoed Chris Monsour's sentiments about the industry's response to insecticide resistance.

Elders CEO Mark Allison enlightened the audience with a lively presentation on the challenges of rebuilding the agribusiness, while Australian Taxation Office Assistant Commissioner Scott Parkinson spoke about 'phoenix behaviour' among labour hire companies.

Sundrop Farms Managing Director Steve Marafiote and Coles Head of Public Affairs Simon Talbot also conducted a Q&A session about the partnership of their respective companies following the development of a commercial tomato farm under greenhouses in the South Australian desert.

Australian Organics Chair Dr Andrew Monk gave an explanation of the organic certification process of products and what to expect, before Friday's speaker sessions wrapped up with a presentation

DuPont Masquerade Theme Night.


Photography by Andrew Beveridge.

The view from RACV Royal Pines.


Women in Horticulture High Tea speakers.

from Stannards Accountants and Advisors Partner Jason Wall, who discussed common business mistakes and business sale and expansion.

Networking events

Following lunch was a business session targeted at women in horticulture, entitled *Step out to step up: Upskilling and inspiring professionals working in horticulture production*. This session featured robust discussion and presentations from AUSVEG Director and Queensland vegetable grower Belinda Adams as well as Montague Fresh International Trade Development Manager Claire Fitchett.

Delegates then had the chance to relax after a busy day with the DuPont Masquerade Theme Night. It also gave them the opportunity to network with friends and colleagues while being entertained by mimes and a jazz band.

SATURDAY 25 JUNE

Those up bright and early on Saturday morning were treated to an outdoor breakfast once again. Dr Sharman Stone, former Member for Murray, addressed the audience about the issues she faced when calling for government assistance to save local processor SPC Ardmona.

Following breakfast, AUSVEG and APAL delegates broke off into two concurrent speaker sessions that targeted issues in their respective industries.

AUSVEG delegates heard from Watermark Senior Tax Consultant Russel Gooch and Trainee Patent and Trade Marks Attorney Renee White, who outlined the R&D Tax Incentive Program and its implications for growers. United States vegetable grower Jack Vessey spoke about issues facing vegetable growers in southern California and highlighted how the industry responded to a devastating salmonella outbreak in the state in 2006.

Syngenta Vegetable Seeds Global Head of Marketing Massimo Enzo then outlined the global vegetable industry's market dynamics while Adama Australia General Manager of Technical Development Andrew Horsfield discussed the future of Nimitz nematicide in fruit and vegetable crops in Australia.

Kalfresh Agricultural Director Rob Hinrichsen presented an entertaining piece entitled '40,000 Kilometres and Five Cows', where he addressed the issues of soil health and controlled traffic farming. Rounding out the morning of speakers was Tony Chilvers, eCommerce and Technology Content Marketer, who stressed the importance of social media and technology in marketing products.

Following the closure of the Trade Show, it was time for a small group of young growers to enjoy some indoor skydiving, while the ladies were wined and dined at the Women in Horticulture High Tea at Palazzo Versace. Hosting the event was Pip Courtney from the ABC's *Landline*, while Dr Sharman Stone gave a keynote address urging women to step up and take on challenging roles in horticulture.

The success of Kalfresh's Just Veg range was highlighted before a Q&A session was conducted with the grower panellists, which included Alice Gorman, Jane Miles and Tracey Rieck from Kalfresh; Sharron Windolf from Windolf Farms and Director of Hort Innovation Susan Finger. Their comments led to an insightful discussion about women in horticulture, the opportunities presented and stepping up to grasp them when they do become available.

Acknowledging the best

As the 2016 Convention came to a close, it was time for the National Awards for Excellence Gala Dinner where both AUSVEG and APAL celebrated the achievements of leading members of the vegetable, potato, apple and pear industries.

Queensland's Rob Hinrichsen claimed the prestigious Grower of the Year award, while former potato grower Wayne Cornish from South Australia was recognised for his tireless commitment to the industry with the AUSVEG Lifetime Achievement Award. The full list of award winners can be found on page 12.

AUSVEG would like to thank the six Convention co-hosts for their partnership, as well as the Strategic Partners, delegates, speakers and exhibitors. Without this collaboration and support, the event would not have been such a success.

2016 NATIONAL AWARDS FOR EXCELLENCE

THE 2016 NATIONAL AWARDS FOR EXCELLENCE CELEBRATED THE OUTSTANDING ACHIEVEMENTS AND CONTRIBUTIONS MADE TO THE AUSTRALIAN HORTICULTURE INDUSTRY BY GROWERS, RESEARCHERS AND ORGANISATIONS, AT A MAGNIFICENT GALA DINNER.

LIFETIME ACHIEVEMENT AWARD

L-R: Wayne Cornish and AUSVEG Chairman Geoff Moar.

GROWER OF THE YEAR

L-R: Rob Hinrichsen and Syngenta Head of Specialty Crops Bob Mullins.

RESEARCHER OF THE YEAR

Bayer Head of New Business Development Richard Dickmann (on behalf of winner Dr Lucy Tran-Nguyen).

WOMEN IN HORTICULTURE AWARD

L-R: Sharron Windolf and Steritech General Manager, Queensland Glenn Robertson.

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RISING STAR OF THE YEAR

L-R: Coles Brand Business Manager Fresh Produce Richard Luney and Jacob Parrish.

YOUNG GROWER OF THE YEAR

L-R: Thang Hoang Le “Aussie Kev” and Dow AgroSciences Horticulture Business Manager John Gilmour.

ENVIRONMENTAL AWARD

Netafim State Sales Manager Andrew Pollard (on behalf of winner Tony Croft).

INDUSTRY IMPACT AWARD

L-R: Jill Briggs and Visy State Sales Manager Kym Ziersch.

COMMUNITY STEWARDSHIP AWARD

L-R: Greg Owens and DuPont Marketing and Sales Manager Jeremy Cocks.

INNOVATION PARTNER AWARD

L-R: Boomaroo Head of Sales and Marketing Emily White, Bayer Head of New Business Development Richard Dickmann and Bayer Product Manager Lachlan Bird.

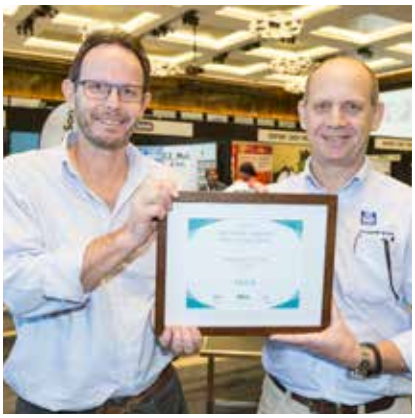
INNOVATIVE MARKETING AWARD

Kalfresh representatives and Angelo Demasi from the Central Markets Association of Australia.

TRADE DISPLAY OF THE YEAR: SINGLE BOOTH

L-R: Toro Territory Manager Brad Batten and Toro National Sales Manager Luke Ognibene.

TRADE DISPLAY OF THE YEAR: MULTI-BOOTH



L-R: Yara Sales Agronomist/South VIC and Tasmania Keith Fallow and Yara Commercial Coordinator Premium Offerings Paul Eitzen.

Potato terms of trade: First quarter 2016

THE MOST RECENT DATA FROM GLOBAL TRADE ATLAS ON THE VALUE OF IMPORTS AND EXPORTS OF POTATO PRODUCE HAS BEEN RELEASED FOR JANUARY TO MARCH 2016. *POTATOES AUSTRALIA* TAKES A LOOK AT THE FORECAST, WHICH IS PREDICTING AN INCREASE IN POTATO IMPORTS FOR THIS YEAR.

New data from the Global Trade Atlas for the first quarter of 2016 indicates that potato imports into Australia are noticeably higher in the first quarter of 2016 in comparison to 2015 (23 per cent increase). This sets the forecast for a significant rise in potato imports than in previous years.

Potato produce categories that have grown the most in contrast to the first quarter of 2015 include frozen prepared potatoes (21 per cent growth) and non-frozen prepared potatoes (37 per cent growth).

Australian potato exports have experienced a six per cent decline in comparison to the same time last year, falling by an estimated $290,000. A lot of the changes in terms of trade for potato produce can be explained by the increasing exchange rate over the last year. As the value of the Australian dollar continues to grow, the value of imports into Australia is expected to increase as the dollar is able to purchase more overseas produce.

Moving forward

Even though the first quarter results from the Global Trade Atlas may present some concerns over the value of imported produce entering Australia, the Australia Bureau of Agricultural and Resource Economics and Sciences (ABARES) continues to report that potato exports are likely to remain at similar levels in the medium-term.

This communication has been funded by Horticulture Innovation Australia Limited using the Fresh Potato Levy and funds from the Australian Government.

Project Number: PT15007

Horticulture Innovation Australia

Table 1: Potato and Potato Produce Exports ($AU Millions)

Product	Q4-14	Q1-15	Q2-15	Q3-15	Q4-15	Q1-16
Frozen prepared potatoes	0.10	0.08	0.06	0.32	0.34	0.24
Non-frozen prepared potatoes	2.87	3.92	3.49	3.09	2.46	3.15
Flakes, granules and pellets of potatoes	0.02	0.02	0.02	0.10	0.02	0.01
Seed potatoes	0.11	0.58	0.88	0.70	0.05	0.76
Flour and meal of potatoes	0.02	0.06	0.08	0.06	0.02	0.09
Frozen potatoes boiled in water	0.06	0.03	0.09	0.05	0.16	0.15

- Frozen prepared potato exports grew by over 200 per cent in comparison to the first quarter of 2015.
- Potato exports are approximately $290,000 lower this quarter than expected.
- Seed potato exports have grown 30 per cent this quarter, increasing by approximately $180,000 in contrast to the same quarter of 2015.

Table 2: Potato and Potato Produce Imports ($AU Millions)

Product	Q4-14	Q1-15	Q2-15	Q3-15	Q4-15	Q1-16
Frozen prepared potatoes	2.07	1.71	2.03	2.58	2.14	2.34
Non-frozen prepared potatoes	11.52	10.43	14.30	11.00	11.41	12.62
Flakes, granules and pellets of potatoes	0.86	1.15	2.36	1.89	1.44	1.49
Seed potatoes	0.00	0.00	0.00	0.00	0.00	0.00
Flour and meal of potatoes	0.03	0.03	0.03	0.04	0.03	0.05
Frozen potatoes boiled in water	0.07	0.14	0.05	0.06	0.03	0.08

- Imported potatoes and potato produce increased by over $3 million in comparison to the same quarter last year.
- Frozen prepared potato imports grew by 37 per cent in comparison to the first quarter of 2015.
- During the January to March quarter, Australia imported over $16 million of potato produce.

with Scott Mathew

THERE ARE SEVERAL FACTORS TO CONSIDER WHEN CHOOSING A SITE FOR THE NEXT SEASON'S POTATO CROP. SYNGENTA TECHNICAL SERVICES LEAD SCOTT MATHEW EXPLAINS HOW GROWERS CAN GET THE BEST OUT OF THE NEW SITE.

Site selection is key – make sure the soil type is right for the crop.

During this slightly quieter period, for the majority of processing potato growing regions, it is timely to start planning the next season's crop. Some of the important decisions that you should consider in regards to site selection are listed below.

Rotation crops/weeds

Ideally, the area selected should not have had potatoes or Solanaceous crops including tomato, pepper, eggplant or Solanaceous weeds, such as nightshade, growing in the area for the last five years if possible to reduce disease carryover.

Soil type

Potatoes prefer soils that are well-drained, friable in texture and not prone to periods of waterlogging. The soil is a reservoir for water and nutrients through which air exchange between the soil and atmosphere must readily occur. If the soil is prone to waterlogging, then the roots system of the potato plant will be starved of oxygen, preventing the potato from being able to efficiently absorb either water or nutrients. It also won't be able to prevent diseases that are associated with waterlogged roots such as Pink rot.

Potatoes can generally tolerate a low soil pH range (between 5.5 to 6.5) however, if the soil pH is less than 5.5 (in water), soil and plant aluminium levels may increase and limit yield and the soil pH could be adjusted (e.g. with lime). Be warned that if Common scab (*Streptomyces scabies*) is a potential threat, you may want to avoid the use of lime and fresh animal manures. Instead, try to maintain the soil pH between 5.0 and 5.2 (applications of sulphur have proved useful in reducing the level of scab in some soils of high pH).

Herbicide carryover

Potato crops can be quite sensitive to damage from herbicides that carryover from previous crops or pastures; for example, sulfonylureas (LOGRAN, Ally) or clopyralid (Lontrel). These are widely used on cereal crops and the residues of these herbicides can be very persistent in the soil.

Potato crops are also susceptible to a number of herbicides that are either not registered for use in potatoes or can be affected by spray drift from herbicides applied to areas nearby. Therefore, it is important to consider what crops or pastures may be near the site you have selected to grow your potato crops.

Be very mindful in the growing season of sprayer tank contamination which can also cause significant damage to your actively growing potato crop.

So, with these important decisions to make and considerations to cover when selecting your growing site, it's a good time to think about these during the slower period of the season to ensure you are in the best position when the season kicks off again.

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.

This communication has been funded by Horticulture Innovation Australia Limited using the Fresh Potato Levy and funds from the Australian Government.

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Horticulture Innovation Australia

Introducing the Potato Processors Association of Australia

TO PROVIDE READERS WITH AN UPDATE ON ALL SECTORS OF THE AUSTRALIAN POTATO INDUSTRY, *POTATOES AUSTRALIA* HAS INTRODUCED A DEDICATED COLUMN FROM THE POTATO PROCESSORS ASSOCIATION OF AUSTRALIA (PPAA). IN THIS ARTICLE, PPAA CHAIR PETER HARDMAN EXPLAINS THE ROLE OF THE ASSOCIATION AND PROVIDES A GROWER CHECKLIST TO PREPARE FOR THE UPCOMING SEASON.

The Potato Processors Association of Australia (PPAA) would like to thank AUSVEG and growers for this opportunity to regularly contribute to *Potatoes Australia*. Some of you may be familiar with the PPAA but for those of you who aren't, the PPAA is made up of representatives from each of the five largest potato processors in Australia: Simplot, McCain, Smiths, Snackbrands and Marvel Packers.

Distinct difference

The potato industry is unique in that the grower's 50 cent per tonne National Potato Levy is matched by the processors for all tonnes processed. The PPAA charter is to guide the investment of our potato processor levies into projects that will lead to greater on-farm production efficiencies and in turn, greater productivity and profitability for our growers and suppliers.

Some of our short-term priorities involve the expansion and development of the DNA-based soil testing (PreDicta Pt) to include diseases such as Pink rot and Potato cyst nematode (PCN). We are eager to find sustainable treatment options for Powdery scab and develop new control options for Pink rot.

We are also keen to ensure that we are taking the necessary steps to protect our industry from the introduction of Zebra chip. The PPAA remains committed to working with processing growers to combine our levy resources to tackle on-farm productivity challenges.

Forward planning

After a season interspersed with drought, floods and rain, it's time to review the last season and plan for the future. Like anything, good planning increases the chances of realising production goals.

For this first column from the PPAA, we provide a pre-season checklist that for most of you will be common practice – but for others might prompt some hands-on planning prior to the next season.

General

- Review the last season with your field officer and agronomist and decide what improvements you can make to increase yield, quality and reliability. What is working well for you and what could be improved? Are there different ways to approach things that might give you a better outcome?
- Create a new plan and work through it with your agronomist and company field officer. Advanced planning for the next few seasons always pays dividends.
- It's a good idea to organise your contractors for the season. They like to know what work they have for the year.
- Negotiate hard with your suppliers for the best deal and conditions. If necessary, talk with your bank manager about an overdraft to cover the year's crop costs.
- Review staff requirements for health and safety training for potato operations. The UK's Agriculture and Horticulture Development Board (AHDB) website has some great modules that cover aspects of safety in potato production (please visit potatoes.ahdb.org.uk/safe-potato-operations for more information).

Paddock

- Select the paddocks you intend to plant considering the paddock history, year of the last potato crop and what varieties have been grown in the paddock. Consider planning beyond the next season.
- Clean up the cropping area and remove self-sown potatoes.
- Soil fertility samples should be taken and a decision on fertiliser made. Make sure you order your fertiliser and gypsum.
- Talk to your agronomist about using PreDicta Pt to test for soil borne pathogens.

Seed

- Check your purchased seed – how is it holding and is the

PPAA

Potato Processing Association Australia

coolstore operating well?
- Plan for when you should be starting to warm seed to meet your planting times.
- Talk to your seed growers about your expectation for the following season's seed requirements in regards to size, tonnes, cultivars, quality, etc. Seed growers need to know what they should be striving to achieve.
- If your seed is contract cut, talk with the contractor about cut size and any treatment you might want applied.

Planting

- Make sure your planter is ready and the winter maintenance is done.
- Have a planting plan that is worked back from your contract tonnes and times.
- Check in with your agronomist about the suitability of chemistries as furrow sprays.
- Do you have enough water? Are your irrigators ready to go?
- Finally, at the start of each paddock or new seed line spend some time checking your seed piece spacing, seed piece depth, fertiliser placement and fertiliser rate. It will be time well spent.

There's an old saying that you can't manage what you don't measure, so keeping accurate records from the start of the season is always advisable. These records are also a good basis for processor food safety records and can include soil test results, seed certification results, seed cutting results etc.

From the PPAA and processors, we wish all growers a successful 2016/2017 potato growing season and we look forward to seeing you in the spud paddock.

For more information, please contact Anne Ramsay on 0400 368 448 or at ppaa.eo@gmail.com.

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Horticulture Innovation Australia

L-R: Dr Brendan Rodoni and Dr Fiona Constable.

AgriBio: A state of the art facility

AGRIBIO, A JOINT INITIATIVE OF THE VICTORIAN GOVERNMENT THROUGH AGRICULTURE VICTORIA AND LA TROBE UNIVERSITY, IS A CUTTING-EDGE CENTRE FOR RESEARCH AND DEVELOPMENT IN THE AGRICULTURAL AGRIBIOSCIENCES SECTOR LOCATED AT LA TROBE UNIVERSITY'S BUNDOORA CAMPUS IN VICTORIA. *POTATOES AUSTRALIA* HAD THE PRIVILEGE OF TOURING THE FACILITY, WHICH IS CONDUCTING IMPORTANT RESEARCH FOR THE POTATO INDUSTRY. MICHELLE DE'LISLE REPORTS.

The AgriBio facility is impressive in many ways. From the extensive greenhouse to the storage rooms where the tiniest of plant specimens and thousands of insects are kept, it really is a state of the art research facility.

Potatoes Australia paid a visit to AgriBio and spoke to Agriculture Victoria Principal Research Scientist – Microbial Pest and Diseases Dr Brendan Rodoni and Senior Plant Virologist Dr Fiona Constable.

In a nutshell

AgriBio is a joint facility run between Agriculture Victoria and La Trobe University.

The facility houses 400 scientists and support staff, 75 per cent from Agriculture Victoria and 25 per cent from La Trobe University, providing researchers with purpose-built facilities to conduct their work in animal and plant research.

"We do a range of activities to support research for agricultural industries, from high-end pre-breeding programs, genomics and metabolomics to some really good science around pest and disease management," Dr Rodoni said.

The Microbiology team consists of approximately 35 staff, five PhD students and one master's student, who work on microbial organisms for both animals and plants.

Combining resources

AgriBio officially opened in April 2013, amalgamating government metropolitan scientists who were scattered around Melbourne at Knoxfield, Frankston, Attwood and Bundoora prior to the facility's inception and linking them with La Trobe University scientists.

The benefits of this union between scientists have been profound, especially in terms of access to technology and the ability to communicate with other researchers, growers and the wider agriculture industry. Communication has become much easier since the building was established, much to the delight of staff, including Dr Constable.

"There's a whole bunch of resources that we share, particularly a range of high technology equipment that really assists us to do the work that we do," Dr Constable said.

"For example, we have one PhD student, Brittney Caruana, who is working on potato breeding, and she has access to all the Genomics capacity and next generation sequencing, plus she gets the benefit of working with us and the more traditional virology techniques that we use.

"They're the kind of benefits that we get: those really strong links among groups and expertise, which is fantastic."

More than just research

While Dr Rodoni and his team are researchers, there is more to AgriBio than meets the eye.

"I think a really important part of our structure here is that we're researchers and we're encouraged to do research, but we also provide really extensive diagnostic and biosecurity services to industry on a fee-for-service basis, which started in the 1990s," Dr Rodoni said.

"What we find now is that the fee-for-service is very

AgriBio conducts a range of research, from high-end pre-breeding programs to pest and disease management.

The greenhouse is just one of the many impressive features in the state of the art AgriBio facility.

L-R: PhD student Brittney Caruana, who is conducting potato research, and Dr Fiona Constable.

sustainable, so industry sectors receive great benefit from the diagnostics service and that money is used to support staff on an ongoing basis and ensures that the science capability is there next year when they want to conduct further testing."

Fee-for-service: Potatoes

For the potato industry, AgriBio provides a fee-for-service for the seed certification program.

"We have a number of seed certification bodies as clients for the facility and they keep us very busy, particularly between January to April," Dr Rodoni said.

"It's not just seed certification – there's other sectors of the potato industry that we do work for. As a fee-for-service, we do a lot of diagnostic testing at the Australian border to support quarantine. We test for a lot of things, but for potatoes it's essentially around Solanaceous seed."

In the last 12 months, AgriBio has tested approximately one million tomato and capsicum seeds for Potato spindle tuber viroid (PSTVd).

"The whole purpose of that is to stop PSTVd from getting into the country and affecting our potatoes. Even though we're not testing potatoes, it's a pathway to get to them," Dr Rodoni explained.

Working with growers

In encouraging news for the industry, AgriBio also communicates directly with potato growers on a regular basis.

"It's a really good opportunity for us to interact with growers via the diagnostic fee-for-service and let them know what we're doing and how we might actually be able to work with them to be able to do some R&D," Dr Constable said.

"For example, if we get a positive result for a virus, we know that Brittney would be really interested in that as a potential new strain that she can work into her breeding program. There is a lot of communication with growers on the ground about what we do and why we do it – it's really great."

AgriBio also undertakes activities such as Crop Hygiene, which is an additional biosecurity service.

"We work with various industries including potatoes, to introduce material into tissue culture – high health material that is maintained as a resource by industry for industry. It's undergone a lot of testing to ensure its high health status and it's there to support industry," Dr Constable said.

Potatoes Australia will provide regular updates on potato research being conducted at AgriBio in future editions.

For more information, please contact Senior Plant Virologist Dr Fiona Constable at fiona.constable@ecodev.vic.gov.au.

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Horticulture Innovation Australia

Potato industry stalwart looks back on a lifetime of achievements

HE MAY NO LONGER BE AN ACTIVE MEMBER OF THE AUSTRALIAN POTATO INDUSTRY, BUT SOUTH AUSTRALIA'S WAYNE CORNISH HAS LEFT BEHIND A LONG-STANDING LEGACY THAT HAS HELPED THE INDUSTRY DEVELOP TO WHERE IT IS TODAY. DIMI KYRIAKOU SPEAKS TO THE WINNER OF THE 2016 AUSVEG LIFETIME ACHIEVEMENT AWARD.

I wasn't sure what to expect from Wayne Cornish when I asked to visit his farm in South Australia and conduct a video interview about his contributions to the Australian potato industry.

It was certainly an odd request, given that Wayne left the industry some time ago to focus on growing cherries and figs on his farm in Kenton Valley, along with sheep and cattle. Unbeknown to Wayne, he had been selected as the winner of the AUSVEG Lifetime Achievement Award to be presented at the 2016 National Awards for Excellence, and we were planning to show the video at the event.

Fortunately he agreed to the interview without a moment's hesitation, proving that despite the time that has passed, Wayne continues to readily volunteer his knowledge to help the wider industry. It is also why, decades on, many of his former colleagues have fond memories of their time working with Wayne, and acknowledge the extraordinary contributions he has made to the vegetable and potato industries throughout his lifetime.

An industry advocate

These days, the farm at Kenton Valley is defined by endless rows of cherry and fig trees draped in white and black netting, which dip and rise over the rolling hills throughout the property. It is a picturesque and peaceful part of the country, with the rural silence punctuated occasionally by sheep and cows in the distance.

At one stage, this farm was a bustling potato hub, mainly producing the Kennebec variety for the processing market. As a passionate sixth-generation farmer, it was only a matter of time before Wayne decided to become more involved in shaping the future of the Australian potato industry.

"I think it's crucially important for people to be involved in their industry organisations, simply to create and establish policy to drive things in a true and correct manner, to make sure that industry is cohesive and working together and to make sure that government policy reflects what industry wants and needs," he says.

Wayne's industry involvement began at a local level and soon escalated to the national level, where he became President of the Potato Growers of Australia and the inaugural Chair of the Australian Potato Industry Council. A passion for agripolitics also led Wayne to become the President of the South Australian Farmers Federation and later the Vice President of the National Farmers Federation.

"Initially, I was with the vegetable industry organisation at a national level prior to AUSVEG being created, and I'm proud to say I was part of the committee that set up AUSVEG," he explains.

"We came up with the name AUSVEG during a meeting that was being held in the New South Wales Farmers Association building. I recall the day very clearly and I'm proud to say I uttered the word first and it stuck. So we have AUSVEG today and it's done very well."

Long-standing legacy

For countless years, Wayne juggled the responsibility of running his farm alongside his passion for furthering the potato industry. There was an endless list of challenges to overcome during this time, including the decade-long drought where Wayne led the development of drought policies and review of assessments as Chair of the Rural Advisory Group, all the

Photography by Andrew Beveridge.

while witnessing the devastating impact of drought on the farming community.

After so many years of industry involvement, it was difficult for Wayne to pinpoint his proudest achievement. However, his work in talking to growers and encouraging the uptake of a national levy system for the vegetable and potato industries was certainly one to note.

"I'm proud to say I was a part of that because both the industries have moved forward significantly with the financial capacity that the levy was able to provide," he says.

"The research that has contributed to the industry's financial stability and environmental sustainability is around us all the time, and the industry has changed significantly because of it. The levy has been an instrumental factor in achieving cohesion and a collective approach in the industry."

Wayne is also a firm advocate for education and training. It was one of the areas he focused on during his time with the South Australian Farmers Federation and has been heavily involved in ever since.

"Skills and training are absolutely vital in this industry and it's something a lot of farmers and growers don't appreciate well enough. If we want young people to come into our industry, we have to give them opportunity and we have to give them career pathways. Education and training is a no-brainer, as far as I'm concerned."

The way forward

Wayne was quick to answer when asked for his thoughts on the future of both the Australian potato industry and the wider horticulture industry.

"The future for these collective industries is very, very bright. Australia has to make sure that it keeps its research and development alive and make sure that we can, from an environmental and from an economic point of view, remain sustainable," he says.

"There are a lot of great people across the farming sector, and I've been privileged to meet so many. They are the people who will guide these industries into the future.

"If you're choosing to lead, look over your shoulder every now and again to see that somebody's following because if they're not, all you're doing is going for a walk."

As for Wayne, he is quite content with being able to farm efficiently and profitably in Kenton Valley, and there is no doubt that he still has more to offer the Australian horticulture industry.

"I don't think I could ever retire; I think I'd hate it. Farming is something that I was born into and something that will be there forever. There are always lots of jobs here that suit my capabilities and I enjoy doing them," Wayne says.

"As a family team, we all enjoy it. I hope my sons continue to make this business prosper and perhaps more importantly than that, my grandsons come through and carry the property on for another few generations.

"The people in the industry are also very important and while my network of people perhaps has diminished a little over the last few years, the friends I've made are very significant – all of those things contribute to what I think is a very fascinating and enjoyable industry."

Understanding the benefits of certified seed potatoes

BEFORE PURCHASING SEED POTATOES FOR COMMERCIAL POTATO PRODUCTION, THERE ARE A FEW THINGS TO CONSIDER. AS SEED IS ESTIMATED TO BE ABOUT 20-30 PER CENT OF THE PRODUCTION COSTS OF GROWING A POTATO CROP, IT IS VALUABLE TO INVEST IN A GOOD SEED SUPPLY TO ENSURE YIELD AND QUALITY TARGETS CAN BE ACHIEVED. ViCSPA MANAGER AND AUSTRALIAN SEED POTATO COUNCIL SECRETARY DR NIGEL CRUMP EXPLAINS.

Certified potato seed has some known certainty about the quality of the seed. Independent crop and tuber inspections, conducted by a seed certification authority, ensures that the Seed Potato Scheme tolerances are met and the variety is true-to-type with no variety mixes observed at the time of inspection.

Importantly, supporting laboratory testing has been done to mitigate any potential biosecurity threats such as Potato cyst nematode (PCN) and Potato spindle tuber viroid (PSTVd). While some may claim to have uncertified seed which is "as good as certified", there is no such thing. With yield and quality delimiting diseases such as Potato virus Y (PVY) and other issues, it is not worth the risk.

Cost of certification

The cost of certification to the seed producer is estimated at $25 per tonne (based on ViCSPA fees), making the Seed Potato Scheme an affordable option for the cultural management of many seed borne diseases and quality issues.

Capturing technology and science

There is a lot more sitting behind the certification system. A state of the art database is tracking all seed plots (varieties and generations) and collates all the records and data to issue and track all certification labels. In making a decision on a seed purchase, ask for a copy of the certification information from your seed grower.

Seed potato certification authorities are adopters of modern plant health diagnostic laboratory tests to support the visual assessment of seed crops for certification, when required. Over the past five years, ViCSPA has required a leaf test for PVY. This has contributed to an improvement of PVY management, with the 2015/16 season having an extremely low rejection rate for all viruses, including PVY.

Field selection

Certification requires five years between potato crops for early generation seed crops and three years for later generation (4-5) seed crops to minimise the build-up of soil borne diseases. Longer rotations are always desirable.

Independent inspections

The seed certification authorities employ professional certification officers who provide independent assessment of all seed lots. The officers are highly skilled in the identification of disease symptoms and variety mixes.

Communication is key

It is advisable to directly communicate with your seed grower/supplier to ensure the seed you are purchasing meets your expectations and needs. This applies both to the seed and the related business transactions for the purchase of the seed.

Developing a relationship between the seed grower and end-user provides all parties with a clear understanding of the intention of the seed. The fitness for purpose can then be agreed. For example, is the seed for direct planting or is it for storage? A visit to the seed grower's farm during the growing season to see the crop first-hand can be useful.

Other considerations

The supply, storage and transport of seed needs to be considered. Good seed handled poorly will not produce high yields. Poorly handled seed that has bruising and/or mechanical damage will have increased physiological age and be vulnerable to rots and breakdown.

A good storage program can maintain the initial seed quality, so if bad quality enters the store then there should not be the expectation that the quality will improve in the store. Always ensure certified seed is inspected on arrival and that any seed in bulk bags is gently decanted into bins for improved ventilation.

Final note

The certification system is only as good as the support given by the commercial sector of the industry and we always welcome feedback as to how the Seed Potato Scheme can better meet end-users' needs.

For more information, please contact Dr Nigel Crump on 03 5962 0000 or email nigel.crump@vicspa.org.au.

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Horticulture Innovation Australia

Unearthing the secrets of profitable soils

THE AGRICULTURE AND HORTICULTURE DEVELOPMENT BOARD IN THE UNITED KINGDOM HAS THROWN ITS SUPPORT BEHIND FOUR NEW PROJECTS FOCUSING ON SUPPORTING AND ENHANCING SOIL AND WATER ROTATION.

Four new projects addressing challenges in soil and water management across whole rotations have been awarded £1.2 million (approximately $AU2.1 million) in funding from the UK's Agriculture and Horticulture Development Board (AHDB).

Combining investment from AHDB's Potatoes, Cereals and Oilseeds and Horticulture sectors, the interrelated projects will form a five-year program of research to help farmers and agronomists optimise soil and water management decisions and plan environmentally and economically beneficial rotations. The program also aims to equip growers with the knowledge to build resilient, sustainable and profitable rotations.

A large-scale investment

AHDB Head of Resource Management Dr Mike Storey outlined the differences between these projects in comparison to those previously undertaken.

"This new initiative for AHDB and the soil rotation work provides a platform to build on the core skills and knowledge, both nationally and internationally, and AHDB will be looking to use the partnership to develop new linkages, provide synergies with other projects and deliver added value for investment made by Great Britain's levy payers," Dr Storey said.

"This is the first example of a new functional approach AHDB is taking to commissioning and managing research. A lot of research has been carried out in the past, funded by individual AHDB crop sectors, looking at soil management in a single season. This new program considers practice in a rotational context.

"As a five-year program, instead of our usual three, it will allow us to really pull out the practical outcomes and test them for robustness within the timeframe of the program."

Gaining an insight

Underpinning the program as a whole, the *Grower Platform to support resilient rotations* project will draw on historic data and current rotations to quantify links between rotational management and soil physical conditions with gross output, yield stability and economic margins. Industry engagement is also a high priority.

Applications of new technologies to enhance rotations is set to critically assess existing precision farming technologies and investigate the practical benefits of managing fields in zones.

The *Enhancing rotational productivity and resilience* project will address concerns around the detrimental effect on subsequent crops of incorporating root crops into rotations, quantifying the physical and economic cost of soil damage and developing strategies to minimise the risk of damage occurring.

The final project, entitled *Linking soils, water and roots with crop productivity*, seeks to gain a better understanding of how changes in soil conditions affect root growth, water uptake, canopy growth and yield potential in potatoes and other crops.

Benefit for growers

Mr Storey explained that a significant part of the funding has been allocated to develop a grower platform.

"It builds on the experience of Strategic Potato and Monitor farms," he said.

"We'll be taking the research into a field-scale context and growers will get the opportunity to see it in practice. Importantly, this is a two-way interaction — we want to encourage discussion, and the feedback will help develop the program. This is far more actively managed than a traditional research program."

International benefit

The outcomes of the project have the potential to be wide-reaching and beneficial to Australian growers.

Dr Storey commented from a UK perspective, saying it was a platform to build on core skills and knowledge.

"We (AHDB) would welcome the opportunity to use the partnership to develop international linkages and provide synergies with other projects that would benefit all collaborators," he said.

For more information, please visit ahdb.org.uk.

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Horticulture Innovation Australia

Adult Colorado potato beetle. Image courtesy of Clemson University–USDA Cooperative Extension Slide Series, Bugwood.org.

Image courtesy of Bruce Watt, University of Maine, Bugwood.org.

Colorado potato beetle eggs. Image courtesy of Whitney Cranshaw, Colorado State University, Bugwood.org.

Colorado potato beetles march east

IN THIS EDITION OF *THE FRONT LINE*, WE INVESTIGATE THE IMPACT OF THE COLORADO POTATO BEETLE OVERSEAS AND EXPLAIN WHY IT HAS BEEN SUCH A DESTRUCTIVE PEST ACROSS COUNTRIES IN NORTH AMERICA, EUROPE AND PARTS OF ASIA.

The Colorado potato beetle (CPB, *Leptinotarsa decemlineata*) is regarded as one of the greatest potato pests. It is incredibly destructive, broadly spread around the world and highly resistant to insecticides. Around 56 active chemicals are now of limited effectiveness against the CPB.

The beetle is capable of stripping an entire potato plant of all foliage, which can kill young plants or result in a 50 per cent reduction in yield for a crop. It has spread across North America, Europe and much of Asia and is able to survive in extremely hot and cold environments.

From eggs to adults

Part of the difficulty in controlling CPB is that it spends a lot of its life underground, either overwintering or transforming into adults. In some cases this can last for two years.

In the warm weather, the beetles emerge, mate, feed and lay eggs. Once they hatch, the young (larvae) constantly feed on potato leaves and then bury into the ground to later emerge as adults.

Researchers have determined that a female is able to lay between 500 and 1,000 eggs, so the numbers in a crop can be significant. As adults can each eat 10cm² of potato leaf per day, and the beetles tend to emerge from the soil at the same time in spring, there is significant potential for massive damage to potato crops.

Temperature and hours of light help to determine the number of generations of CPB that can develop per year. Therefore, the climate of the southern half of Australia would be quite supportive of CPB reproduction.

Along with intercrop dispersal, adults are able to migrate and fly up to over 100 kilometres to find new food sources and mates. Additionally, they are able to hitchhike on transportation of plant material and survive in sea water for several days until they wash up on land, further increasing their potential for spread.

Presence on three continents

The beetle originated in Mexico, where it lived primarily on plants native to the area. From there, CPB began to spread when it came into contact with the potato crops of early American setters in the mid-19th Century.

It completed its spread across the entire North American continent by 1919. Despite quarantine measures and successful earlier eradications, it established itself in France by 1922. From there it moved eastward across Europe and then Asia. By 2010, CPB had been found in 38 counties and cities throughout China.

The CPB spread has followed the Northern Hemisphere's temperate zone eastward, but the beetle is able to establish itself in quite extreme hot and cold latitudes. Distribution between 15° and 60° north has been recorded. If it were to reach the Southern Hemisphere, then large parts of Australia would offer a suitable environment for the beetle to cause destruction.

Not a picky eater

The preferred host for CPB is potato, with certain cultivars being more attractive than others. As beetles fly or walk when looking for a new host plant, they use sight and smell to direct them.

Although the young require potato plants to reach adulthood, once grown, the CPB can feed on a broad range of hosts. These can include many Solanaceous crops, such as tomato and eggplant, as well as weeds such as nightshade and, importantly, a number of Australian native bush tomatoes. This means that they would find hosts that would act as a corridor throughout the country if they were to arrive in Australia.

Challenging to control

The CPB is very difficult to effectively control. One cultural method is to rotate crops far away from the previous season's location. As the beetles emerge, they must crawl to a suitable host that may be far away. Trench traps that are set to trap the beetles as they migrate can also help.

There are a number of insect predators of CPB, including native parasitoids and general predators such as green lacewings and some ladybirds. The problem is that in most cases, these natural predators are unable to keep up with the CPB numbers in the crop. CPB numbers grow at a faster rate than predator reproduction and once the CPB migrate underground, the predator's food source disappears. European efforts to introduce multiple American predators as a means of control have not been particularly effective.

The CPB has an ability to develop resistance to nearly all insecticide actives that have been used to attempt to control it. This includes many of the neonicotinoids and spinosad, while some of the newer actives are also quickly showing declining efficacy.

The best form of control is grower vigilance and strict on-farm biosecurity measures so that CPB can be eradicated before it establishes itself in Australia.

Any unusual plant pest should be reported immediately to the relevant state or territory agriculture agency through the Exotic Plant Pest Hotline: 1800 084 881.

For further information, contact AUSVEG National Manager – Scientific Affairs Dr Jessica Lye or AUSVEG Biosecurity and Special Projects Coordinator Callum Fletcher on 03 9882 0277 or jessica.lye@ausveg.com.au or callum.fletcher@ausveg.com.au.

This communication has been funded by Horticulture Innovation Australia Limited using the Fresh Potato Levy and funds from the Australian Government.

Project Number: PT15007

Horticulture Innovation Australia

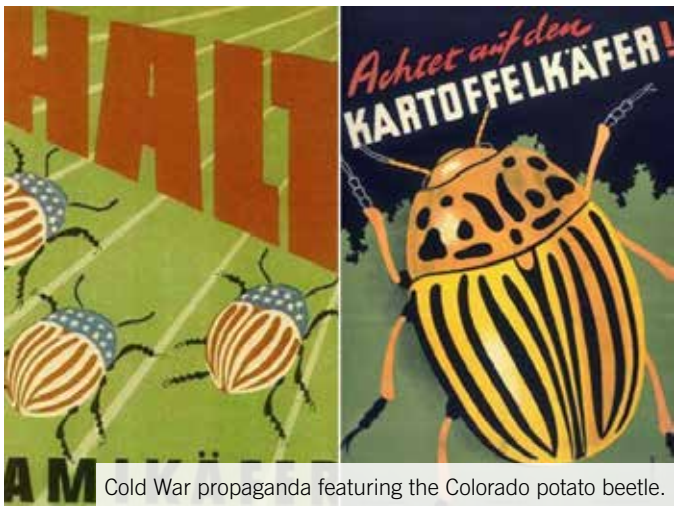
A Czechoslovakian children's story book about the Colorado potato beetle.

A VERY POLITICAL HISTORY

Interestingly, the Colorado potato beetle has witnessed many of modern history's key political events. It arrived on the American east coast during the Civil War and then established itself in France as a result of the First World War, before spreading to Russia during the Second World War.

Beetle propaganda

The beetle also played a starring role in Cold War propaganda (see images below). In 1950, the East German government accused the Americans of dropping Colorado potato beetles on their paddocks from aircraft. Posters were produced calling them 'Yankee Beetles' and children were sent out to collect them for destruction. There was even a Czechoslovakian children's story book produced that depicted the American plot (see image above). A translation of the title is: *On the evil potato-eating beetle: The Colorado American who wants to rob from our plates*. However, there is very little evidence to support these claims.



Cold War propaganda featuring the Colorado potato beetle.

New soil phosphorus test shows promise for potatoes

THE RESULTS FROM A SERIES OF TRIALS CONDUCTED IN SOUTH AUSTRALIA WILL GIVE POTATO GROWERS AROUND THE COUNTRY AN INSIGHT INTO THE RELATIONSHIP BETWEEN SOIL PHOSPHORUS LEVELS AND YIELD, AS WELL AS THE MOST EFFECTIVE METHOD TO MEASURE PHOSPHORUS IN THEIR SOILS.

A new test for measuring phosphorus in the soil is helping to deliver some significant cost savings and environmental benefits to Australia's potato industry.

The project, *Innovative Nutrient Management for the Australian Potato Industry*, successfully proved that a new test for measuring phosphorus in the soil, the Diffusive Gradients in Thin-films (DGT) test, was more accurate at predicting a yield response to applied phosphorus fertiliser in potatoes than currently used soil tests. The project was a joint initiative between Potatoes South Australia Inc (the peak industry association for the potato value chain) and the South Australian Government.

Gaining an insight

Fifteen replicated trials investigating the applicability of the DGT test in potato cropping systems were conducted over the past two years in South Australia, including a trial at Andrew Widdison's property located in the state's south-east.

Mr Widdison grows potatoes on 120 hectares of irrigated country, across properties at Kalangadoo and Mumbannar.

"The project gave a great insight into the soil fertility of our fields and the relationship between phosphorus and our soils," Mr Widdison said.

"The results of the project will give producers and their advisers better information for their decision-making in fertiliser management."

Primary Industries and Regions South Australia (PIRSA) Senior Consultant Dr Melissa Fraser led the project, and said the trials were borne from industry concerns that the overuse of phosphorus was compromising the economic and environmental feasibility of the industry.

Producer confidence from trials

Results from the trials showed that more than 70 per cent of the sites had soil phosphorus concentrations sufficient to meet crop needs with no additional phosphorus fertiliser required.

"We found that the majority of crops only need between 30-40kg of phosphorus applied, based on removal rates, but standard industry applications were found to be 66-110kg/ha. Reducing rates can lead to cost savings of up to $250 per hectare based on current fertiliser prices, which is significant," Dr Fraser said.

Mr Widdison said the calibration of the DGT test for potatoes will give producers confidence in matching phosphorus rate to soil type and optimal yield.

"The major outcome for producers is improved economics, and by not over-fertilising, unwanted environmental impacts are minimised," he said.

Collaboration the key

Potatoes South Australia CEO Robbie Davis said the project was the first of its kind in Australia and a great example of what could be achieved when all members of the value chain collaborate.

"The project has also created a new network for the producers involved and given them greater access to soil scientists, researchers, agronomists and government extension staff and each other," Ms Davis said.

While the field trials had been conducted only in South Australia, the results and critical DGT values are relevant nationally.

"The extension of this research across other soil types and specific varietal trials at a national level will greatly assist in the quantification and validation of these initial results. This will also further enhance the critical importance of the application of the DGT test in horticulture/agriculture as a decision-making tool," she said.

Innovative Nutrient Management for the Australian Potato Industry was funded by the Department of Agriculture and Water Resources National Landcare Innovation. Details including interpretation guidelines are available at potatoessa.com.au or dgtpotatoes.com.au.

This communication has been funded by Horticulture Innovation Australia Limited using the Fresh Potato Levy and funds from the Australian Government.

Project Number: PT15007

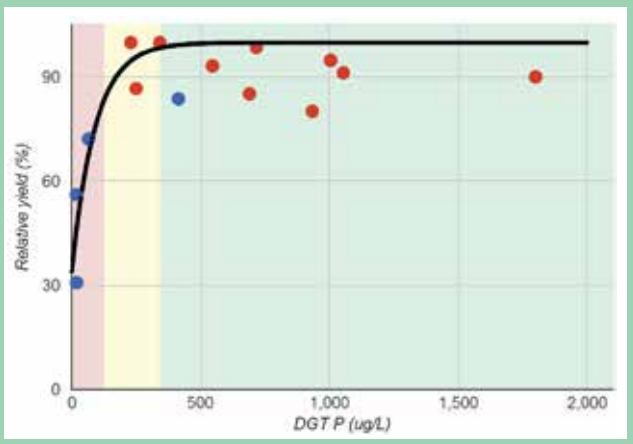
Horticulture Innovation Australia

HOW TO INTERPRET DIFFUSIVE GRADIENTS IN THIN-FILMS (DGT) VALUES FOR POTATOES

Results from the 15 replicated yield response trials conducted in major South Australian potato growing regions indicate:

- DGT-phosphorus values < 75 µg/L indicate moderate to substantial penalties would occur if no phosphorus fertiliser were applied.
- DGT-phosphorus values between 75-310 µ/L have moderate likelihood of achieving a small yield increase when phosphorus fertiliser is applied.
- DGT values >310 µ/L indicate a very low likelihood of achieving a yield increase when phosphorus fertiliser is applied.

Figure 1: Relationship between DGT values and potato response (relative yield)



THE BOTTOM LINE

- Conventional testing methods for assessment of soil phosphorus have shown to overestimate available phosphorus on certain soil types (calcareous, acidic with high iron or aluminium).
- The Diffusive Gradients in Thin-films (DGT) test measures available phosphorus at more relevant chemical and physical conditions than the conventional Colwell, Olsen and Bray methods and has been developed to assess available phosphorus in a wide range of Australian soil types.
- The mode of measurement is by diffusion of available phosphorus in the soil towards a phosphorus sink (an iron oxide gel). It therefore measures both the initial soil solution phosphorus concentration and also the ability of the soil to resupply the soil solution pool in response to the removal of phosphorus, mimicking the action of plant roots better than conventional methods.
- DGT critical values have successfully been determined from field trials across southern Australia for wheat, barley, canola and field pea crops.

Figure 2. Measurement of available phosphorus by DGT. The DGT device is placed upside down on moist soil (approximately 100 per cent water holding capacity) for a period of time (typically 20-24 hours).

Young grower profile

Name:

Richard Hawkes

Age:

34

Location:

Boneo, Mornington Peninsula, Victoria

Works:

Hawkes Produce

Grows:

Potatoes (Kipfler, Ranger Russet, Exton, Nicola and Sebago), spring onions, baby carrots, parsley and radish

How did you first become involved in the potato industry?

An experiment that got out of control! I started my career as an agronomist with E.E. Muir and Sons in Thorpdale in 2003-04 and started playing around with a quarter of an acre of different fertiliser programs on our family property in Boneo. I had no plans when it came to selling the potatoes and given we have a good amount of passing traffic, my Dad suggested I should sell the Sebagos from the shed. I made enough money to pay for a holiday so I thought maybe I would do a handful more the next year and then it grew and grew and grew (now I don't have time to have holidays).

What is your role in the business?

The butcher, baker and candlestick maker! General Operations Manager, overseeing day-to-day operations after ground preparation (planting, fertilising, irrigation, harvesting and packing). My Dad is in charge of ground preparation and my sister is involved with the planting, harvesting and packing.

How would you describe your average day at work?

They vary a little depending on the time of year, however they generally start with coordinating orders, setting tasks for the work crews, harvesting potatoes, washing and packing the product for the day and then loading the truck to head off to market.

What do you enjoy most about working in the potato industry?

Talking to the customers that come to our farm gate to purchase product and hear about how much they like the product we grow. We have many customers that drive over an hour with the sole purpose of purchasing bags of potatoes for their family and friends.

What are the biggest challenges you face working in the industry?

Expanding the operation to meet our customers' increasing

Photography by Luka Kauzlaric.

demand within this region where the current price of land is $35,000 per acre.

Where do you see opportunities for growth in the Australian potato industry?

The biggest opportunity in the potato industry is to buck the trend of supplying supermarket varieties such as Golden Delight and grow multi-use varieties such as Sebago that people actually look forward to eating and can have a consistent eating experience day-in, day-out. People who have a good eating experience will want to repurchase the same product, thus leading to repeat buying which is the sole reason for our business success.

Most customers that come to our farm gate tell us they want a potato that can do everything – mash, roast, chip, make gnocchi, whatever! If people are unsure about what they want, we sell them Sebagos and 99 per cent of the time people are happy. The rest we give a free bag of Kipflers.

How do you think young people could be encouraged to take up jobs in the potato industry?

Young people in general need to have the opportunity to 'have a go', even in a small way (I started with a quarter of an acre) and allow them to make their own mistakes. Guidance and recommendations are helpful for learning how to do something, but making your own mistakes will help you learn faster, especially when you are playing with your own money.

As a potato grower, what is your biggest achievement so far?

Rebuilding a business with my Dad, almost from scratch, into a profitable growing, packing and retail business with a brand that has good customer support and recognition.

If you weren't working in the potato industry, what would you be doing?

Working in the apple industry. I worked as an apple agronomist for five years with E.E. Muir and Sons and then with Apple and Pear Australia Limited for two years and I thoroughly enjoyed the industry.

Where do you see yourself in five years?

Steady expansion in the growing and packing component of our business and a significant expansion in the value-added component of our business (farm gate retail and agritourism).

Looking for Tomato-potato psyllid.

Range of TPP host plants sparks further research

TO HELP THE AUSTRALIAN POTATO INDUSTRY PREPARE FOR A POSSIBLE TOMATO-POTATO PSYLLID INCURSION, A NEW RESEARCH PROJECT WILL AIM TO UNCOVER THE RANGE OF PLANTS THAT COULD PLAY HOST TO THE PEST, APART FROM SOLANACEAE.

Knowledge about the exact host plant range of Tomato potato psyllid (TPP; *Bactericera cockerelli*) is critical to improving targeted pest and disease management strategies and surveillance techniques for biosecurity agencies, as well as industry and growers. This is the aim of a Plant Biosecurity Cooperative Research Centre project in partnership with Plant and Food Research in New Zealand and the Victorian Department of Economic Development, Jobs, Transport and Resources.

The knowledge from this research will improve Australia's preparedness through more targeted surveillance and potential response strategies if TPP arrives, which is a highly likely situation.

The project is being led by Dr Jessica Dohmen-Vereijssen from Plant and Food Research.

"In the past, most attention was paid to the feeding and breeding activity of TPP on solanaceous crop hosts, including potatoes, tomatoes, eggplant, capsicum and chilli," Dr Dohmen-Vereijssen said.

"However, the population dynamics of TPP seem to be more complicated than first thought now that non-crop hosts, for example African boxthorn (*Lycium ferocissimum*), poroporo (*Solanum laciniatum*) and Jerusalem cherry (*S. pseudocapsicum*), have been indicated as sources for psyllid survival between cropping seasons.

"More importantly, these hosts could also serve as reservoirs for the bacterium *Candidatus* Liberibacter solanacearum (CLso) that the psyllid vectors, with major impacts on the yield and commercial viability of horticultural crops such as potatoes."

Extensive plant hosts

Researchers have been conducting a literature review and host plant field surveys which have provided interesting insights into the breadth of plant species on which TPP can complete at least one generation.

They discovered that the international literature, mainly from the United States in the early to mid-1900s, is overwhelmed with references of TPP hosts from 20 different plant families.

These are often merely plants on which only adult TPP have been found, so do not qualify as true host plants.

"Our project narrowed down the list of families by classifying plants into five host plant categories, based on the evidence provided in the literature and our own experiences in New Zealand," Dr Dohmen-Vereijssen said.

"We also found some TPP life stages on Solanaceous plant species which were not mentioned in literature before, detected CLso in wild collected thorn-apple (*Datura stramonium*) and Jerusalem cherry (*S. pseudocapsicum*) outside of the cropping season, and found that all TPP life stages are present on, for example, African boxthorn throughout the year in Hawke's Bay and Canterbury.

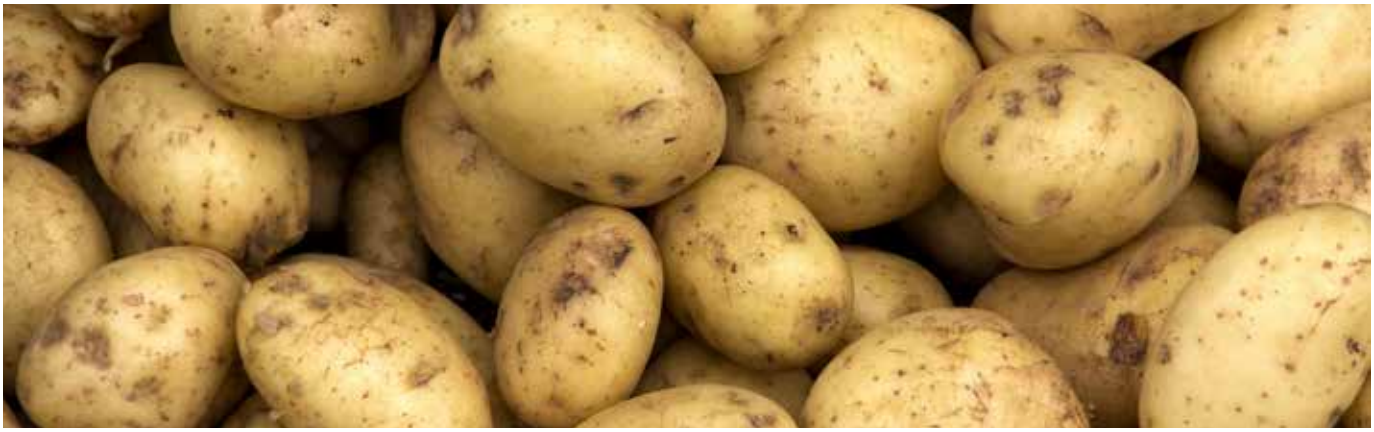
"Our results show that the majority of true host plant species were in the family Solanaceae and some in the family Convolvulaceae."

Local impact

Both Australia and New Zealand have a wide diversity of Solanaceae, which includes plants with indigenous cultural uses. The family contains 102 genera and nearly 2,500 species, of which approximately 70 occur in New Zealand and 206 in Australia.

Convolvulaceae are commonly known as the bindweed or morning glory family which is a family of about 60 genera and more than 1,650 species of mostly herbaceous vines, but also trees, shrubs and herbs,

Psyllid nymphs on African boxthorn leaves.



including sweetpotato.

If TPP arrives in Australia, the Convolvulaceae are present mainly in the north of Australia, roughly between Broome and Cairns, and the Solanaceae are present throughout Australia. Although the areas identified for these families may not be the main areas where Solanaceous crops are grown in Australia, the region may be able to maintain populations of TPP and/or CLso that can infect crops in other regions, for example through movement via human mediated and natural dispersal pathways.

The findings of the research has highlighted the importance of better understanding the role of non-crop hosts for pest and disease management. It has also identified gaps in knowledge, such as the distance from target crops that you need to survey non-crop hosts.

Beneficiaries of this research include growers (potato, tamarillo, tomato, capsicum, chilli, eggplant), plant primary industries in Australia and New Zealand, biosecurity decision-makers and government.

The findings will be used to update Industry Biosecurity Plans, which will assist industry to better prepare for an incursion (e.g. surveillance, pest management). Following on from this project, future research will look at how to integrate this knowledge into regional pest management plans, TPP dispersal over long distances and whether a landscape approach to TPP management is worth pursuing.

This article was supplied by the Plant Biosecurity Cooperative Research Centre. For more information, please visit pbcrc.com.au.

This communication has been funded by Horticulture Innovation Australia Limited using the Fresh Potato Levy and funds from the Australian Government.

Project Number: PT15007

Horticulture Innovation Australia

Send us your story ideas and letters!

Potatoes Australia is always on the lookout for local and international potato R&D projects, leading growers and industry news to profile in the magazine.

If you have a great idea for a potential article or a letter to the editor, let us know!
Email info@ausveg.com.au or call 03 9882 0277.

Bacterial wilt on a potato plant. Image courtesy of Central Science Laboratory, Harpenden, British Crown, Bugwood.org.

Bacterial wilt under the microscope

BACTERIAL WILT IS A MAJOR PROBLEM FOR POTATO GROWERS AND IT IS DIFFICULT TO CONTROL AND ERADICATE DUE TO THE SOIL BORNE NATURE OF THE DISEASE. *POTATOES AUSTRALIA* INVESTIGATES HOW GROWERS CAN IDENTIFY AND MANAGE THE DISEASE TO PREVENT IT FROM SPREADING FURTHER.

Bacterial wilt is one of the most destructive diseases of the potato, as it can cause total crop loss and prevent the use of land for potato production for several years. It is a serious problem in Australia, as well as countries located in tropical and sub-tropical regions.

A soil borne organism, Bacterial wilt is caused by the bacterium *Ralstonia solanacearum*, which enters the root system of the plant at points of injury. It is divided into three races based on the type of host plant it attacks, and then divided into four biovars based on its biochemical properties.

The most widespread strain in Australia that primarily attacks potato crops is race 3/biovar II, which has been known to occur in New South Wales and Queensland. Two other strains, which attack other host plants, are confined to the Northern Territory and Queensland.

Symptoms and transfer

The disease generally advances in temperatures between 25-37 degrees Celsius, hence why it flourishes in tropical conditions and in a typical Australian summer. In optimum temperature conditions, the disease can spread by water or contaminated/wet soil, although it usually does not cause problems when the mean soil temperature is below 15 degrees Celsius.

In potatoes, Bacterial wilt causes wilting, yellowing and the in-rolling of leaves which eventually die from the base of the stem upwards. Wilting is first seen as a drooping of the tip of some of the lower leaves of the plant, while stunting of plants is also common.

Tuber symptoms include brown-grey areas on the outside and when cut, a white to brown pus may appear and exude from the eyes of the potato as the disease advances.

The wilt bacterium can survive for up to two to three years in bare fallow soils, and for longer periods in soils cropped to non-Solanaceous crops. The disease can also be spread through infected seed or a contaminated seed cutter, as well as second-hand bags or bins that have stored infected potatoes.

Disease management

To minimise the occurrence of Bacterial wilt, it is recommended to avoid growing potato crops or other host crops for a minimum of two to five years in an infected paddock. Crops such as peanut, tomato, eggplant, capsicum, beans, tobacco and even banana are all hosts of the disease.

Growers are advised to control self-sown potatoes and weed hosts such as nightshade and thorn-apple and avoid deep ploughing infested paddocks as the disease can survive deep in soil. It is also recommended to avoid irrigation water flowing freely over or below the soil surface.

Most importantly, it is imperative that growers use certified seed from reliable sources and conduct regular crop inspections for signs of Bacterial wilt, and then destroy any diseased plants.

Spread minimisation

To ease the threat of the disease spreading, growers should remain vigilant and maintain good farm hygiene and biosecurity practices by keeping machinery clean and treating infected land as a quarantine zone to minimise the spread of the disease to clean areas.

Equipment should be left on an infected paddock while it is being worked and then washed with a disinfectant solution in a dedicated area after removal from the paddock. Workers' clothing and boots should also be removed before leaving the paddock and then washed in a suitable disinfectant.

The content for this article was sourced from Agriculture Victoria. For more information, please visit agriculture.vic.gov.au.

The topic for this article was selected following the results of PT13013 *A review of knowledge gaps and compilation of R&D outputs from the Australian Potato Research Program.*

This communication has been funded by Horticulture Innovation Australia Limited using the Fresh Potato Levy and funds from the Australian Government.

Project Number: PT15007

Horticulture Innovation Australia

CALENDAR

22-26 August 2016

ALAP 2016 Panama

Where:
Panama City, Panama

What:
Every two years, the Potato Association of Latin America organises a congress that brings together potato researchers and representatives of the potato sector of Latin America.

Further information:
Please visit alappanama.gob.pa.

14-15 September 2016

Potato Europe 2016

Where:
Villers-Saint-Christophe, France

What:
Potato Europe is an annual event for the European potato industry. It will include 300 exhibitors from around the world as well as technical and economic conferences on current issues.

Further information:
Please visit potatoeurope.fr.

Letter to the Editor

I have been researching early copies of The *Agricultural Gazette of New South Wales* and came upon this classic in *Vol. XX1V- Part 9*, page 750, September 1913, "Conditions Governing the Importation of Potatoes for Food Purposes." (See image below.)

Is that when the war started and is the battle won?

In 1901 a Special Federal Edition of the Gazette was published in January *Vol X11 Part 1*. The lead article was, "From Colony to Commonwealth: A Short Account of the Rise and Progress of Agriculture in New South Wales, from the Foundation of the Colony, 26th January, 1788 to 1st January, 1901."

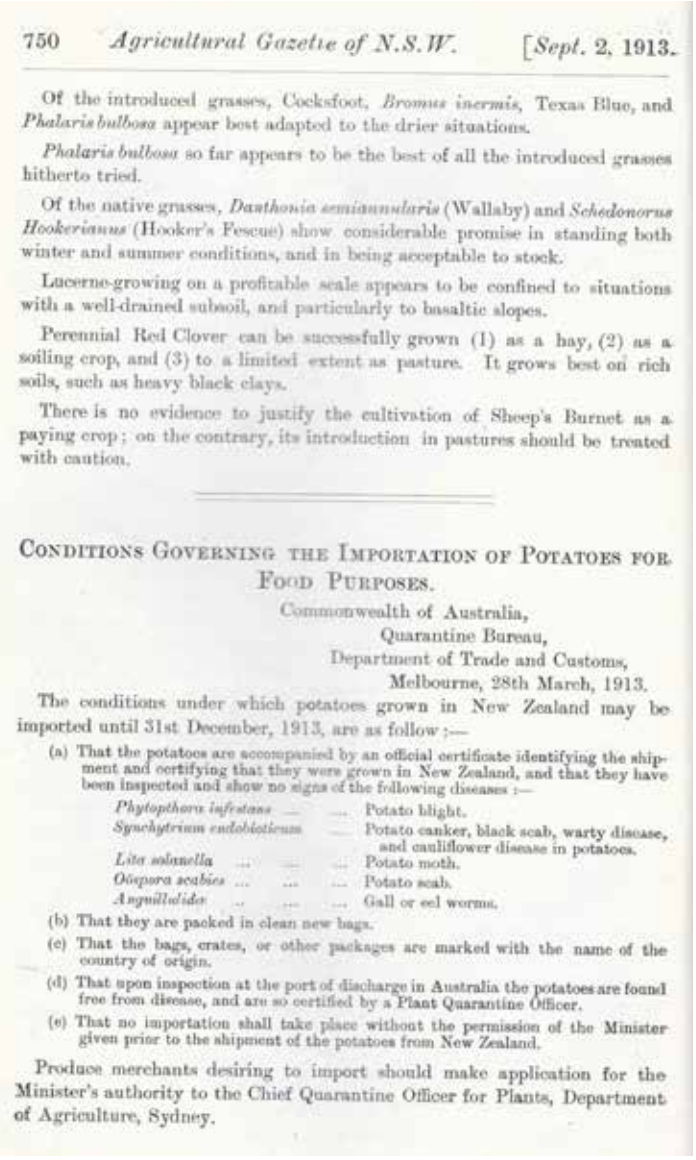
Hawkesbury Agricultural College 1891 – 1989 features consistently in the Gazette with a number of historical photos featuring potatoes.

In 1792 potatoes at the Sydney Markets were priced at 3d. per lb.

Our readers may be interested in the foregoing.

With best wishes,

David Montgomery
Crookwell Potato Association (Life Member)



750 *Agricultural Gazette of N.S.W.* [*Sept.* 2, 1913.

Of the introduced grasses, Cocksfoot, *Bromus inermis*, Texas Blue, and *Phalaris bulbosa* appear best adapted to the drier situations.

Phalaris bulbosa so far appears to be the best of all the introduced grasses hitherto tried.

Of the native grasses, *Danthonia semiannularis* (Wallaby) and *Schedonorus Hookerianus* (Hooker's Fescue) show considerable promise in standing both winter and summer conditions, and in being acceptable to stock.

Lucerne-growing on a profitable scale appears to be confined to situations with a well-drained subsoil, and particularly to basaltic slopes.

Perennial Red Clover can be successfully grown (1) as a hay, (2) as a soiling crop, and (3) to a limited extent as pasture. It grows best on rich soils, such as heavy black clays.

There is no evidence to justify the cultivation of Sheep's Burnet as a paying crop; on the contrary, its introduction in pastures should be treated with caution.

CONDITIONS GOVERNING THE IMPORTATION OF POTATOES FOR FOOD PURPOSES.

Commonwealth of Australia,
Quarantine Bureau,
Department of Trade and Customs,
Melbourne, 28th March, 1913.

The conditions under which potatoes grown in New Zealand may be imported until 31st December, 1913, are as follow:—

(a) That the potatoes are accompanied by an official certificate identifying the shipment and certifying that they were grown in New Zealand, and that they have been inspected and show no signs of the following diseases:—

Phytophthora infestans	Potato blight.
Synchytrium endobioticum ...	Potato canker, black scab, warty disease, and cauliflower disease in potatoes.
Lita solanella	Potato moth.
Oospora scabies	Potato scab.
Anguillulidæ	Gall or eel worms.

(b) That they are packed in clean new bags.

(c) That the bags, crates, or other packages are marked with the name of the country of origin.

(d) That upon inspection at the port of discharge in Australia the potatoes are found free from disease, and are so certified by a Plant Quarantine Officer.

(e) That no importation shall take place without the permission of the Minister given prior to the shipment of the potatoes from New Zealand.

Produce merchants desiring to import should make application for the Minister's authority to the Chief Quarantine Officer for Plants, Department of Agriculture, Sydney.

Regional updates

South Australia

AUSVEG SA and the AUSVEG national office remain concerned by the potential issues caused by Oakville Produce Group and have been working closely with the administrators Deloitte to represent trade creditor interests. AUSVEG SA thanks the AUSVEG National Public Affairs team for being proactive in working with the administrators to ensure open lines of communication and that the eventual sale provides the best possible return to grower creditors.

As part of a broader campaign, AUSVEG SA has also been a strong advocate for the Australian Competition and Consumer Commission (ACCC) and Australian Securities and Investments Commission (ASIC) to provide oversight of the eventual sale of the company, either in part or whole, which may see a significant reduction in competition.

AUSVEG SA has heard concerns from growers throughout Australia about the sale potentially reducing the number of outlets for seed and ware potato varieties and is working with government through the AUSVEG National Public Affairs Team. In the interest of the affected growers, AUSVEG SA and AUSVEG would like to see a result that leads to a good return for growers and will continue to engage closely with Deloitte throughout the process.

The Oakville Produce Group issue points to larger issues in Australian horticulture – mainly that trade creditors such as growers have limited protection under the Corporations Act when large packhouses go into administration. Sadly, a number of packhouses in horticulture have faced troubles in recent times, with growers often at the end of the queue when it comes to servicing creditor debt. AUSVEG SA would like to see a broader reform push that provides greater protection to growers in such instances and will continue to advocate for this reform with the ACCC, ASIC and other relevant agencies.

On a happier note, AUSVEG SA was proud to see local legend Wayne Cornish awarded the AUSVEG Lifetime Achievement Award at the recent National Awards for Excellence on the Gold Coast. Wayne is someone who has given a great deal of time and knowledge to the benefit of the industry and he is a very deserving winner.

Jordan Brooke-Barnett
AUSVEG SA
State Manager
Suite 205, 22 Grenfell St
Adelaide SA 5000
Phone: 08 8221 5220

Victoria - seed

The production of certified seed potatoes commences five years before they are ready to be sold to the customer. The process begins with the propagation of tissue cultured mini-tubers at accredited laboratories and progresses through a maximum of five multiplications on farm.

Strict protocols of inspection and testing are followed, and crops can be rejected at any state by the certifying authority (ViCSPA in Victoria and South Australia) according to a set of standards and tolerances agreed upon by the industry (National Standards for Seed Certification).

Land used for certified seed must pass soil testing for Potato cyst nematode (PCN), leaf samples must pass virus tests and the crops must be grown by registered seed growers.

At the last stage before sale, tubers are inspected for a range of issues and are only certified when all conditions are met. If we are to include the years of production before and including the mini- tuber stage, we are looking at eight or more years of dedication to plant and crop health in order to produce quality certified seed.

The importance of using good quality seed in the potato growing operation cannot be overestimated. It is one of the few things that growers have control of in the final outcome and with the tight margins available, it makes no sense to take the risk and economise on an input that has such a bearing on the end result. Buy the best seed available, handle it well and maximise your chances of a good result.

Dean Bone
Seed Potatoes Victoria
Chairman
PO Box 571
Warragul, VIC 3820
Phone: 03 5622 3025
Email: admin@spv.org.au
Website: spv.org.au

New South Wales

Winter in the Crookwell area has well and truly arrived and it is either unusually wet and cold or just a typical highland winter, depending on who you talk to.

Back in the 1950s, potato production was very popular with most farmers. It provided a much-needed cash flow in winter and augmented well in rotational sowing leading into spring. But according to the 'old timers', it was also extremely wet and proved to be almost impossible to lift the potatoes and get them to market.

In a time where mechanisation was limited to a potato fork and a steel needle to sow the bags, getting potatoes out and sold was not an easy task. Doing it in very wet conditions was even harder. From paddock to road proved harder still, with little or no paddock drainage systems and a sheep track at best to carry or drag the 65kg plus bags to a hard road. But if you could get them out, it was financially rewarding with record prices at Flemington Markets in that period.

Now with good access and man-made drainage in wet areas, lifting potatoes in Crookwell is easier. However, with mechanisation comes problems with weight. Big machinery and wet ground don't go well together. So at present, Crookwell is experiencing a trip back to the 1950s and it is very frustrating not being able to get the orders filled.

On the bright side, two thirds of the crops in Crookwell have been dug and sold. The big wet will set us up for a great spring, fill irrigation dams and help immensely with the next ploughing project.

We all hope next season will be a fair bit easier, especially in the harvest period, and we – the 'old timers' – will tell everyone in the years to come about the big wet in 2016.

Matthew Gay
Crookwell Potato Growers' Association
President
169 Goulburn Street
Crookwell NSW 2583
Phone: 02 4832 1800
Website: seedpotatoes.com.au

Western Australia

The sixth of July was the day the Smith's processing plant processed its last potatoes. This is a significant loss to the potato industry in Western Australia as it represents about 15 per cent of total potato production in this state. This closure means that WA only has one significant processing plant left. It is vital to seed, ware and export growers that processing continues in WA as many crops that don't meet specs, and also out-of-grade product, can provide some return through processing.

The PGA is currently exploring export markets for these chip stock growers. We believe that marketing this chip stock cooperatively as a single block will give growers the best opportunity to compete in these markets long-term.

Seed growers in Albany have all but finished grading this year's harvest. Yields have been reasonable and losses from inundation due to a wet autumn have not been as bad as growers initially feared. Uncertainty in the marketplace is the major issue with the closure of Smith's and deregulation of the fresh market. The placing of Oakville Produce into administration also affects WA seed growers.

Export seed growers in the Manjimup/Pemberton and Margaret River regions have also mostly finished grading with growers reporting positive marketing outcomes for the season. Expansion from existing markets and interest from new clients has seen new growers enter the export seed market through existing exporters. We expect this growth to continue.

Seed growers await with interest the outcome of proposed changes to upgrade the National Seed Certification Scheme and also the review of governance arrangements. To compete in export markets, it's important to be on a level playing field with our international competitors while maintaining the quality of our seed and the integrity of the scheme.

Regulation of the fresh market will be finalised on 30 September. Growers are still in limbo, with uncertainty over contracts and no news yet on payments from the grower adjustment package. Growers are anxious that this is finalised so they can move on and make decisions about future business investment.

Simon Moltoni
Potato Growers Association of Western Australia Inc
Executive Officer
103 Outram Street
West Perth, WA 6005
Phone: 08 9481 0834
Email: potatoes@vegetableswa.com.au
Website: pgawa.com.au

Queensland

Queensland's potato production is focused in the key growing areas of the Atherton Tableland, Bundaberg, Killarney and Eastern Darling Downs and the Lockyer Valley.

This edition's report comes from the Killarney and Eastern Darling Downs regions, where growers are currently resting paddocks prior to discing in the spring and planting in September, October and November.

The soils in the area are *Krasnozems* – mostly deep, well-drained, red clay loams. They are highly fertile but need organic matter added to them to improve nutrient availability. A potato crop can drawdown significant nutrients, so it is necessary to rest a paddock using a four to five year rotation. After the potato crop has been harvested, paddocks are planted to grass species like *Kikuyu* which return nitrogen to the soil and provide a stockfeed for grazing cattle.

This is a dryland farming area without irrigation. Killarney's average annual rainfall is 744 millimetres, with up to 60 per cent falling in summer. The summer temperatures are milder because of the altitude, which is ideal for potato crops. Unlike other potato growing regions, Killarney and the Eastern Darling Downs produces only one crop a year. The potatoes are harvested from January through to May.

It was a good season for the potato crop this year in the Killarney region, with tonnages up. Unlike other regions where too much rain has been a problem, Killarney and the surrounding district received enough adequate soaking rainfall to grow a good crop without presenting delays in harvesting through too muddy fields.

Brushed potatoes still remain a popular market option for growers in the region, with Sebago favoured because of their versatility.

With Oakville Produce in receivership and harvesting difficulties in other regions, potatoes have become a scarcer commodity and prices are high. It seems likely that the prices will remain high for several more months. It is currently a good time to be a potato grower if you have the commodity to harvest, wherever you are growing in Queensland.

Pat Hannan
Growcom
Chief Executive Officer
68 Anderson Street,
Fortitude Valley, QLD 4006
Phone: 07 3620 3844
Fax: 07 3620 3880

Victoria

The sale of Oakville Produce has been subjected to a number of delays causing ongoing headaches for Victoria's potato growers.

With no certainty around when administrators Deloitte will be able to finalise the sale, this uncertainty looks set to continue, at least in the short-term.

AUSVEG VIC, in conjunction with AUSVEG, has been working closely with interested parties including Deloitte and the Australian Competition and Consumer Commission to ensure that the interests of growers remain a priority throughout the administration and sale process.

Given Oakville Produce is the Australian licensee for a number of major plant breeders' rights (PBRs), the administration and sale of Oakville Produce will continue to be a major area of focus for AUSVEG VIC until such a time as the sale is finalised.

AUSVEG VIC is determined to ensure that any potential buyer of Oakville Produce has a sound understanding of the Australian potato industry and, most importantly, the vital role played by Victoria's potato growers.

Potato growers with questions or concerns relating to Oakville Produce's current operations or the sale process are encouraged to contact AUSVEG VIC State Manager Kurt Hermann on 0437 037 613.

Kurt Hermann
AUSVEG VIC State Manager
Level 2, 273 Camberwell Road
Camberwell, VIC 3124
Phone: 0437 037 613
Email: kurt.hermann@ausvegvic.com.au

Stu Jennings

Time really flies when you're having fun, or in our case, walking around in the mud! It is amazing how over summer, the best performed rain dance didn't manage to produce a drop and as I write this in July, we are knee deep and dodging snowflakes!

As we all know, the weather is unpredictable. It's one of the reasons why we as growers tend to try and control everything else, or at least manage everything we can, to give us some confidence and consistency.

The move to precision farming appears to be bringing with it more consistent outcomes. With concepts such as GPS-controlled steering and controlled traffic to reduce the impact of machinery on the ground (and now even drones are being used for crop monitoring), it won't be long before some machinery won't need an operator at all.

I have been watching with interest the rapid development of cars with autopilot systems that can read the road conditions, road signs and know where the cars around you are. They may have a little way to go yet to become fully compatible with our roads and other cars, but it seems there is only a short leap left for this concept to become common on our highways.

Automated ag

Interestingly, there is plenty of work going on in Australian agriculture that is right up there with the best in the world in terms of automated systems. Check out SwarmFarm (swarmfarm.com.au) to find articles and video on how Queensland farmer Andrew Bate has already taken his vision to reality to become the first in the world to have commercially available robotic crop spraying technology.

YPP partner Adama Australia is also partnering Andrew and his team and can see the SwarmFarm technology improving the productivity of current farming systems with these small, lightweight machines operating in swarms to undertake key tasks including planting, weed and insect control, fertiliser application, irrigation and harvesting.

YPP networking

I was unable to get to the National Horticulture Convention this year, but from what I've heard it was a good turnout. I know from past experience that it is always a great place to see and touch new technology.

Patrick Fox was of course there after winning our photo competition. I know he had a great time meeting up with new and old friends – including fellow YPP Danny Maher and 'much older' grower Greg Murphy, whom he hadn't seen since they all went on the AUSVEG grower mission to Canada and the USA some years ago.

Patrick reports back that he attended all the speaker sessions and gained plenty from listening to the experts regarding new research and product development. He was also particularly inspired to listen to Kalfresh's Rob Hinrichsen (who went on to win AUSVEG Grower of the Year). Patrick also mentioned the Trade Show was excellent – he even bought a new moisture sensor system after learning all about them at the show and now has them installed on his various farm blocks in WA to measure soil moisture and keep a watch on temperature and humidity in his cool stores.

It's great to hear that the Convention delivered what it promises each year – information, innovation and networking!

To steal a quote from our fearless leader: "There has never been a more exciting time to be a farmer!"

Stu

Agbots on the move on Andrew and Jocie Bate's farm south of Emerald. Photography by Sally Cripps.

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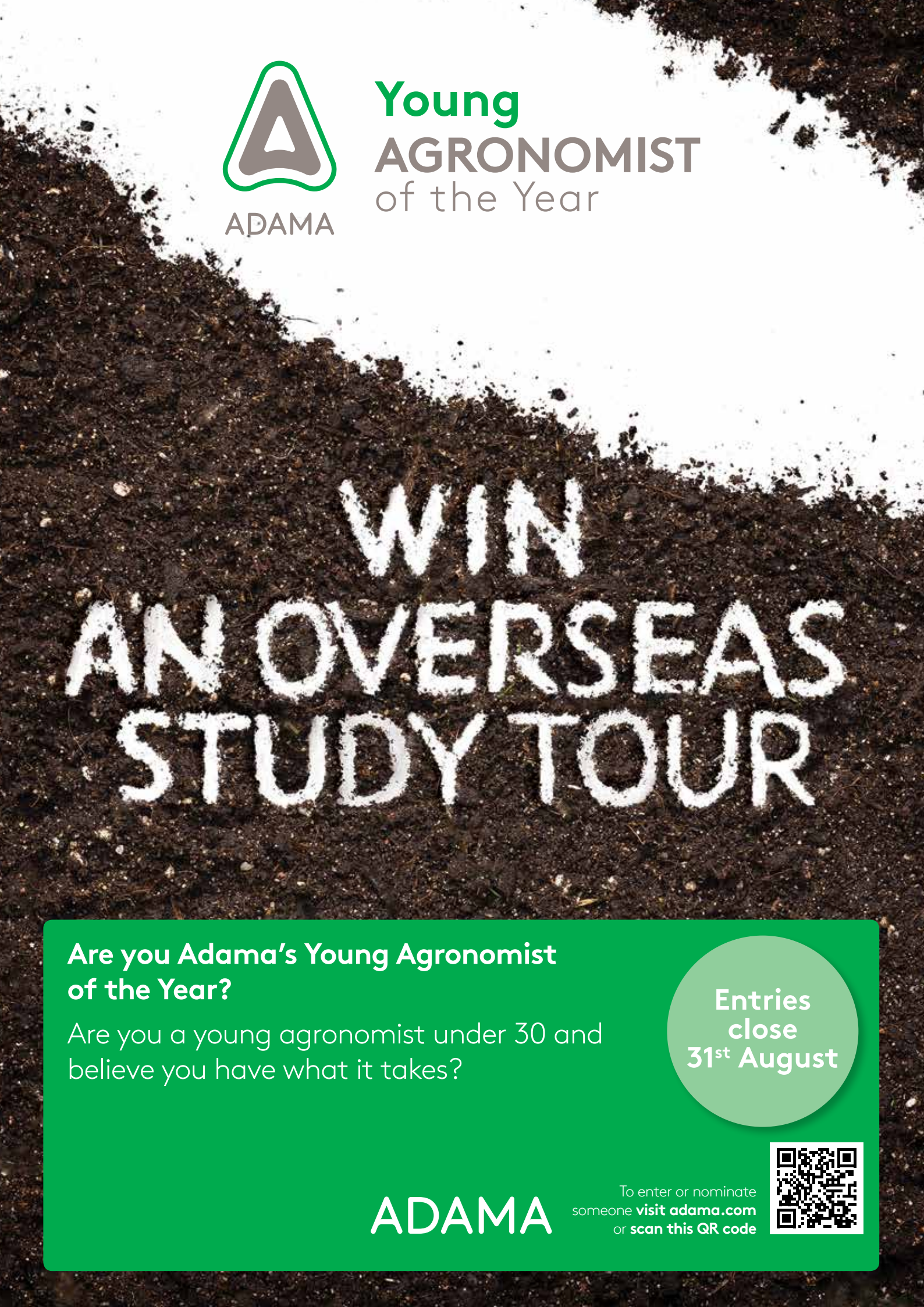

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