

# potatoes

australia

| April/May - 2019



VAUGHAN CARTER | WA GROWER LOOKS TO THE FUTURE

MARKET DEVELOPMENT | AUSSIE POTATO EXPORTS STRENGTHEN IN 2018

PREDICTA PT UPDATE | SOIL TESTING SERVICE EXPANDS FOR POTATO GROWERS



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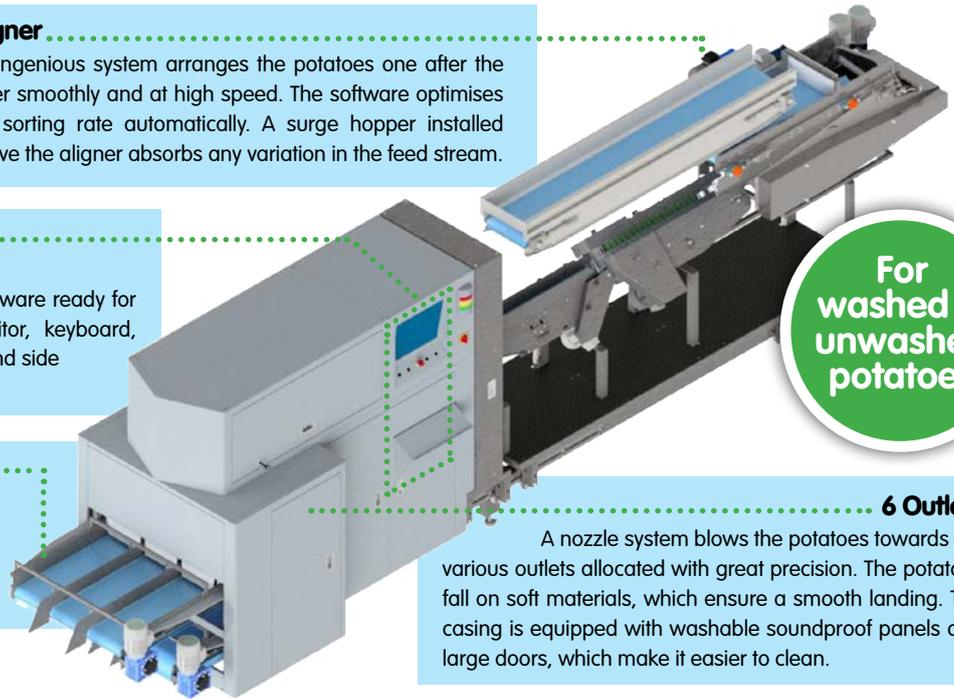
An ingenious system arranges the potatoes one after the other smoothly and at high speed. The software optimises the sorting rate automatically. A surge hopper installed above the aligner absorbs any variation in the feed stream.

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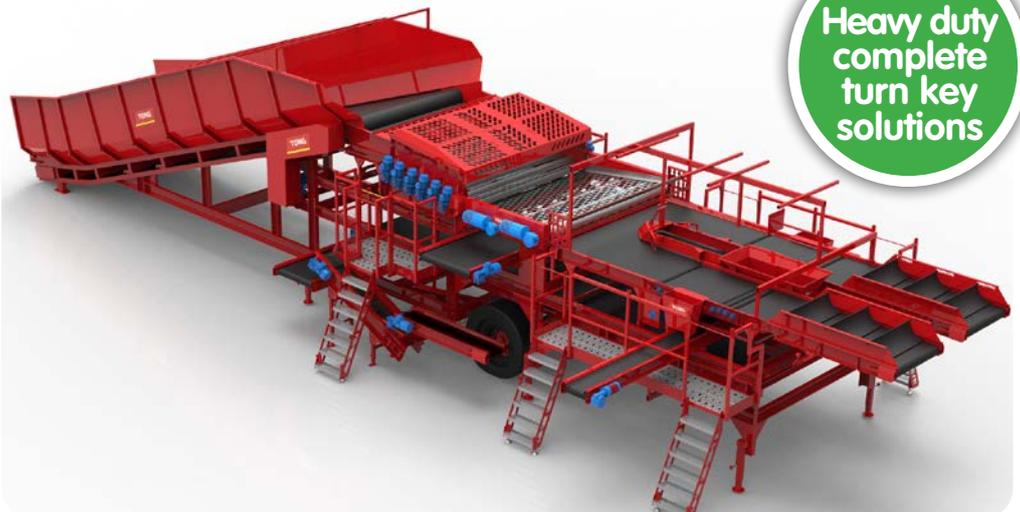
A nozzle system blows the potatoes towards the various outlets allocated with great precision. The potatoes fall on soft materials, which ensure a smooth landing. The casing is equipped with washable soundproof panels and large doors, which make it easier to clean.

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Heavy duty complete turn key solutions





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**Hort Innovation**



## Editorial

For many years, the Australian potato industry has invested in its future by establishing a levy system and dedicating those funds, matched with contributions from the Australian Government, into research and development that will help to improve the productivity, profitability and competitiveness of the seed, fresh and potato processing sectors.

Since the levy system was established, an extensive number of varied and valuable research projects have been conducted for the industry. While these reports are communicated through a range of formats, including *Potatoes Australia*, you may wonder why some practices have become common place while some are only used by a few.

Even the best research and technology will not be adopted unless people are provided with the right support and information to help them use it. Extension – the E in RD&E – is a critical component of bringing about change and moving industries forward.

In the coming weeks there is an opportunity for seed, fresh and processing potato growers as well as wider industry members to help shape the way research projects are communicated and extended. Hort Innovation has commissioned a report into how Australian potato growers receive communication on levy-funded

research and how they best respond to the extension of R&D, with the aim of making sure that future projects in communication and extension deliver the best value for levy payers.

To assist with this, consultancy group RMCG is currently talking to members of all sectors of the Australian potato industry to better understand how they like to receive information about new technology and practices, and some of the barriers to improving business performance. In addition to an online survey, the team will also hold discussions with growers and industry members.

Based on the feedback provided, a plan will be put together for the delivery of future communication and extension activities for the Australian potato industry.

There is no better time to have your say on what the Australian potato industry needs from communication and extension of key research, and ensure that you are getting the full value back from your strategic levy investment.

If you would like to know more or to provide your thoughts on the key communication and extension needs of the Australian potato industry, please get in touch with Jencie McRobert at RMCG on 0427 679 038 or [jenciem@rmcg.com.au](mailto:jenciem@rmcg.com.au).



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## Message from the Chair

AUSVEG has announced its priority list in the lead-up to the Federal Election, as we continue to advocate on behalf of growers to ensure their needs are heard, understood and addressed by key decision makers.

The priority list is named SPROUT (see page 8), and will form the advocacy agenda for the Australian vegetable and potato industries so that the needs of growers can be considered by candidates for all parties across both regional and metropolitan electorates.

As part of its election advocacy platform, AUSVEG has consolidated its position on key issues under the following broad headings. The document itself is available in full on the AUSVEG website.

- **S**upporting our growers.
- **P**rotecting our product.
- **R**especting our borders.
- **O**utperforming our competitors.
- **U**nderstanding our industry.
- **T**ransforming our business.

Our industry is focused on removing the barriers to producing safe, high-quality produce – these include threats from pests and diseases, and removing trade restrictions to increase market access for our produce overseas.

Labour shortages continue to be a major issue faced by the horticulture industry. While we have in-principle support for a recommendation from the Migrant Workers' Taskforce Report for a national labour hire registration scheme, which would help protect vulnerable workers and growers against illegitimate labour hire operators, we believe an Agriculture Visa with a strong horticulture component is still needed to address the chronic shortage of workers. Managing increasing costs on-farm, of which labour is one of the most significant, is essential for a stronger horticulture industry.

Addressing these threats and barriers will allow Australian vegetable and potato growers to run more efficient and effective businesses and play their role in agriculture reaching its \$100 billion target by 2030.

AUSVEG is pleased that this election priority list has been endorsed by our state and territory grower associations. The Australian vegetable industry is currently worth nearly \$4 billion annually and employs tens of thousands of workers across the supply chain, and we believe it reflects a strong vision for its success into the future. Regardless of the final outcome, our growers can have every confidence that AUSVEG will be advocating for their best interests in the crucial weeks ahead.

Bill Bulmer  
Chair  
AUSVEG



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# SPROUT: A platform for advocacy for the 2019 Federal Election

In the lead-up to the Federal Election, AUSVEG has worked with its state members to develop an election advocacy plan that clearly identifies key policy areas for government to act on for the benefit of the industry.

The result is SPROUT, which signifies that while the horticulture industry has come a long way, it is yet to flourish and reach its full potential.

The SPROUT priority list, outlined below, sets the platform for which AUSVEG will conduct its advocacy activities in the lead-up to the Federal Election and act as a reference point for government action over the next term.



## Supporting our growers

How government can help:

- Support and implement an Agriculture Visa with a strong horticulture component.
- Implement a National Labour Hire Licensing Scheme.

## Protecting our product

How government can help:

- Develop crisis management plans together with industry.
- Develop clear cross-jurisdictional protocols and communication.

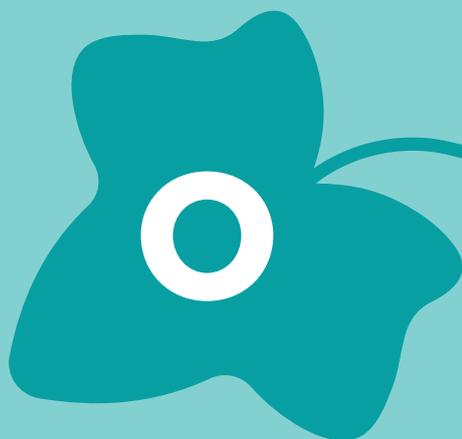




## Respecting our borders

How government can help:

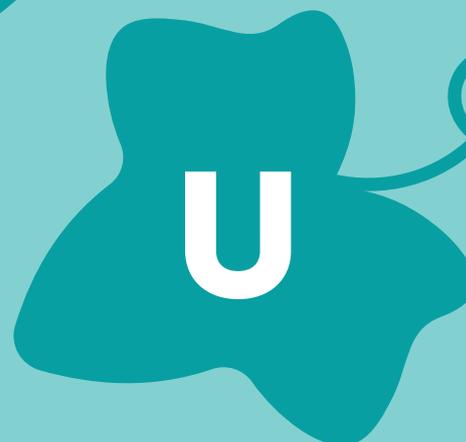
- Ensure the promotion, delivery and acceptance of the National Biosecurity Statement.
- Prioritise the implementation of all recommendations of the Intergovernmental Agreement on Biosecurity (IGAB) report.



## Outperforming our competitors

How government can help:

- Higher prioritisation of horticulture products in trade negotiations.
- Implement an industry/ government committee which oversees cross-government regulatory cost increases.



## Understanding our industry

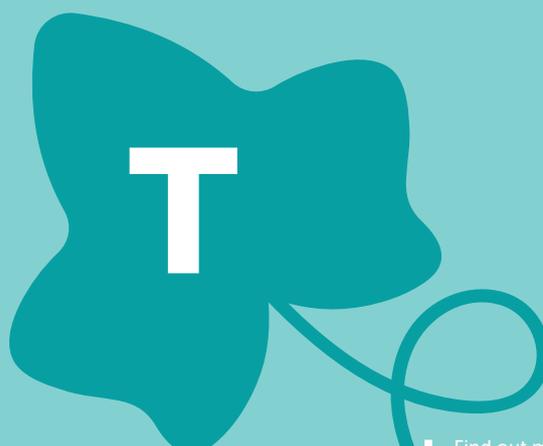
How government can help:

- Support education programs around paddock to plate and healthy eating campaigns.
- Support food waste minimisation programs on- and off-farm.

## Transforming our business

How government can help:

- Maintain funding support for the ACCC Agriculture Unit.
- Support for mandatory price reporting in major fruit and vegetable markets.



Find out more

Please contact AUSVEG National Public Affairs Manager Tyson Cattle on 03 9882 0277 or [tyson.cattle@ausveg.com.au](mailto:tyson.cattle@ausveg.com.au).

## Soil testing service continues to evolve for potato growers

Following its successful introduction in 2013, the PREDICTA Pt testing service offered by Primary Industries and Regions SA through its research division, the South Australian Research and Development Institute (SARDI), has been expanding, to help minimise the impact of soilborne diseases on Australian potato growing operations. SARDI Research Scientist and Project Lead Michael Rettke provides an update.

PREDICTA Pt is a DNA-based soil testing service that allows growers to assess the level of soilborne pathogens in a paddock prior to planting. Based on the test results, growers are provided with an indication of risk for multiple diseases. Armed with this knowledge, better informed decisions can be made on when and what to plant in the paddocks available for potato production. It is about getting the best result possible out of the paddocks and varieties grown, and avoiding situations in which the risk of soilborne disease is unmanageable.

*Extension of the PreDicta Pt potato diagnostic service (PT15008)* is a strategic levy investment under the Hort Innovation Fresh Potato and Potato Processing Funds.

### Assessing disease risk prior to planting

PREDICTA Pt is available to growers through trained agronomists. For specific diseases, the level of inoculum detected is an indicator of the disease risk.

For instance, PREDICTA Pt results provide an indication of the risk of powdery scab, black dot, root knot nematode, *Verticillium* wilt, and root lesion nematodes such as *Pratylenchus penetrans* (refer to Table 1 for a full list of the pathogen tests available). As an example, Figure 1 shows the relationship between pre-plant populations of *Pratylenchus penetrans* and infestation of the root system of potatoes.

Root lesion nematodes are capable of reducing the yield of potatoes on their own, but are more damaging when associated with *Verticillium dahliae*, resulting in potato early dying. When used prior to planting, PREDICTA Pt has also been shown to provide a good indication of the risk of infection by *Verticillium dahliae* (see Figure 2). Yield losses associated with disease caused by these pathogens vary with variety and growing conditions, but typically range between 5-15 per cent.

For diseases such as common scab and black scurf, caution needs to be taken when interpreting pre-plant results. Under conducive conditions, levels below what can be detected in the soil prior to planting may still pose a disease risk.

Not only is the soil a source of inoculum, but seed tubers can also

contribute significantly to the risk of diseases such as black scurf, common scab, black dot and silver scurf. Inoculum on seed tubers needs to be considered when assessing the risk of these diseases.

It is important to note that the development of disease requires conducive conditions. The presence of high levels of a pathogen does not mean it will cause disease. The likelihood and severity of particular diseases is higher in some growing areas than others.

The risk of disease is influenced by factors including varietal susceptibility, time of planting, irrigation and nutrition, seed vigour, soil health and weather events. With repeated testing, agronomists observe patterns in disease incidence with local conditions and varieties, leading to refinement of the interpretation of PREDICTA Pt results in specific production systems.

Sampling technique is critical for soil pathogen DNA testing. Depending on the size, variability of soils and past cropping history, 2-4 tests are normally required to assess the level of inoculum in a paddock.

### Monitoring production systems

Rotations are often central to a grower's strategy to reduce the risk of soilborne diseases. A key question then becomes: is the time between potato crops and choice of other crops grown in the rotation sufficient to minimise the risk of soilborne disease? Given the costs associated with these practices, it is important to get the balance right. PREDICTA Pt provides a way to measure changes in disease risk at any stage during the cropping sequence, to refine long-term strategies to reduce the impact of soilborne diseases.

Pathogen build-up or decline is just one part of the picture in a potato cropping system. The rotations and soil management practices used impact soil health (physical, chemical and biological). These can be as influential as the levels of pathogen inoculum, and changes in soil health need to be considered along with pathogen levels, both in the short- and long-term.

### Understanding yield loss from soilborne disease

PREDICTA Pt is being used as a research tool to assess pathogen infection in root

Table 1: List of pathogen DNA tests available on PREDICTA Pt

Pathogen	Disease
<i>Spongospora subterranea</i>	Powdery scab
<i>Colletotrichum coccodes</i>	Black dot
<i>Meloidogyne fallax</i> <i>Meloidogyne javanica</i> / <i>incognita/arenaria</i> <i>Meloidogyne hapla</i>	Root knot nematode
<i>Verticillium dahliae</i>	Verticillium wilt
<i>Pratylenchus neglectus</i> <i>Pratylenchus penetrans</i> <i>Pratylenchus crenatus</i>	Root lesion nematodes
<i>Rhizoctonia solani</i> AG2.1 <i>Rhizoctonia solani</i> AG3 <i>Rhizoctonia solani</i> AG4	Rhizoctonia stem canker, black scurf, deformed tubers
<i>Streptomyces txtA gene</i>	Common scab
<i>Phytophthora erythroseptica</i> / <i>drechsleri/cryptogea</i>	Pink rot
<i>Helminthosporium solani</i>	Silver scurf
<i>Sclerotinia sclerotiorum/minor</i>	Sclerotinia rot

systems during the growing season to help understand the effect on yield. By testing the root systems of potatoes, the levels of pathogens can be quantified at different times during the growing season. An example of this is presented in Table 2 and Figure 3.

In paddocks with a history of potato production, different combinations of soilborne pathogens are possible, and each combination could have a different impact on yield potential.

PREDICTA Pt testing prior to planting can measure the main pathogens present. When used to test roots throughout the growing season, researchers can determine which pathogens have developed and attempt to link this to management and environmental factors. The broad range of tests now available enables researchers to study the development of potato early dying, black dot, nematodes, rhizoctonia and powdery scab.

## Changes coming

PREDICTA Pt was introduced in 2013 and new tests are being developed, with the service currently being adapted to test seed tuber peel.

New tests for the pathogens that cause pink rot (*Phytophthora erythroseptica/drechleri/cryptogea*), silver scurf (*Helminthosporium solani*) and Sclerotinia rot (*Sclerotinia sclerotiorum/minor*) have been developed within the last 18 months. Testing of isolates and symptoms has demonstrated that these tests correctly detect their target pathogens in Australia. Work is underway to determine their sensitivity for pre-plant risk assessment.

Silver scurf is primarily a seedborne disease of potatoes. Results from the first year of evaluation in grower paddocks found the level of *Helminthosporium solani* on seed tuber peel provides a useful indication of the risk of silver scurf infection of tubers. With the introduction of peel testing, this test will be available for growers to use within the next 12 months.

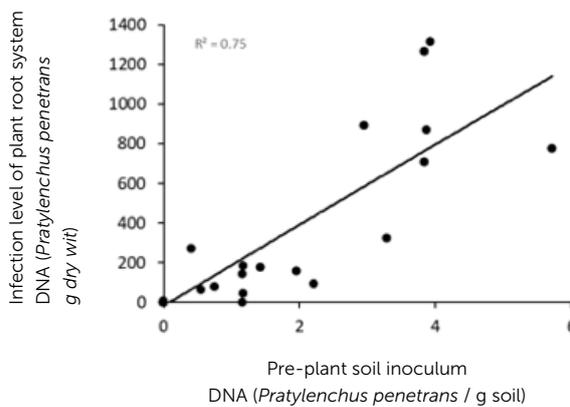


Figure 1: Relationship between population of *Pratylenchus penetrans* in the soil at time of planting and infection levels of the root system of potatoes 75-80 days after planting.

Figure 2: Relationship between soil inoculum level of *Verticillium dahliae* prior to planting and infection level measured in harvested tubers from paddocks in Tasmania and South Australia.

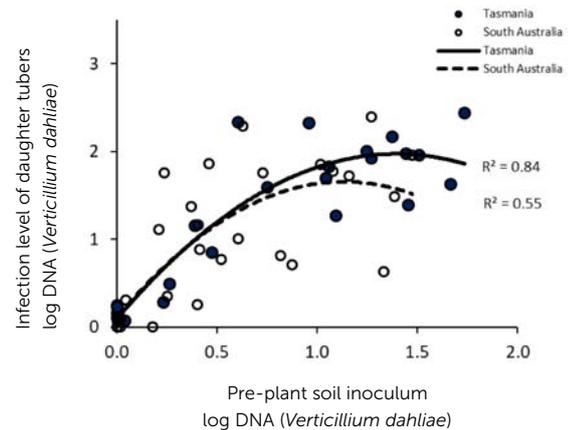


Figure 3: Example of the potato root system tested by PREDICTA Pt, a research tool used to determine which pathogens were detected in the paddock prior to planting infected the crop.

Table 2: Levels of soilborne pathogen detected by PREDICTA Pt in soil pre-planting and in the root system 80 days after planting

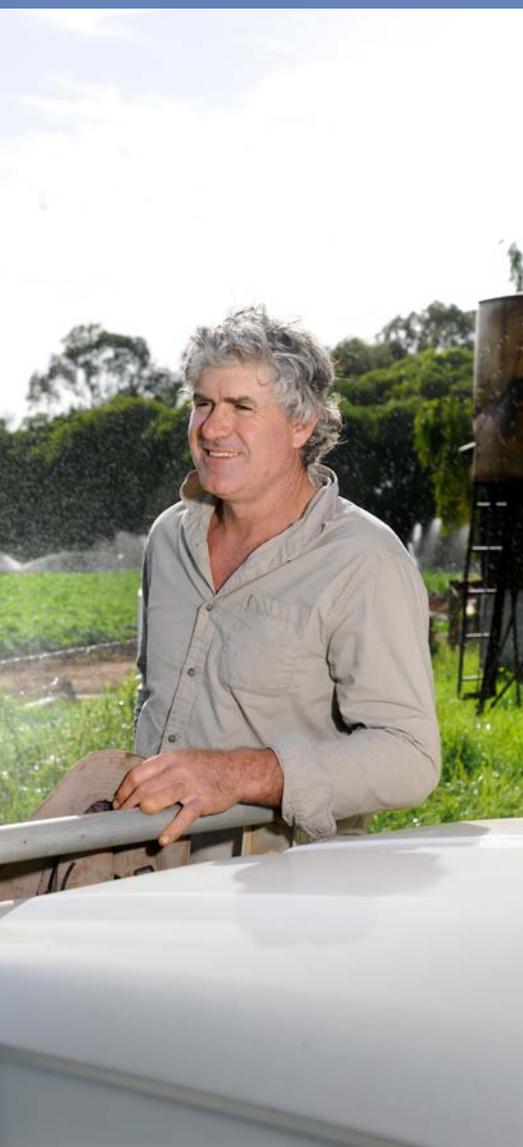
Pre-plant soil PREDICTA Pt Test result	Pathogen	Root system DNA levels
3.5 log (DNA)	<i>Spongospora subterranea</i>	6.5 log (DNA)
1.6 log (DNA)	<i>Verticillium dahliae</i>	4.3 log (DNA)
3.2 log (DNA)	<i>Colletotrichum coccodes</i>	5.0 log (DNA)
1.4 log (DNA)	<i>Rhizoctonia solani AG2.1</i>	3.1 log (DNA)
0.2 log (DNA)	<i>Rhizoctonia solani AG3</i>	2.5 log (DNA)
0.0 log (DNA)	<i>Rhizoctonia solani AG4</i>	0.0 log (DNA)
0.0 log (DNA)	<i>Phytophthora erythroseptica/cryptogea/drechleri</i>	0.0 log (DNA)
1.4 log (DNA)	<i>Streptomyces txtA gene</i>	4.3 log (DNA)
2.0 log (DNA)	<i>Meloidogyne fallax</i>	5.0 log (DNA)
0.0 log (DNA)	<i>Meloidogyne hapla</i>	1.7 log (DNA)
0.0 log (DNA)	<i>Meloidogyne javanica/incognita/arenaria</i>	0.0 log (DNA)
0.3 nems/g	<i>Pratylenchus crenatus</i>	2 nems/g
1.0 nems/g	<i>Pratylenchus neglectus</i>	69 nems/g
0.0 nems/g	<i>Pratylenchus penetrans</i>	0 nems/g

### Find out more

Please contact Michael Rettke at michael.rettke@sa.gov.au or visit [pir.sa.gov.au/research/services/molecular\\_diagnostics/predicta\\_pt](http://pir.sa.gov.au/research/services/molecular_diagnostics/predicta_pt).

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

Project Number: PT15008



## Vaughan Carter: Representing Western Australia's potato industry

As President of Western Australia's peak body for potato growers and a grower in his own right, Vaughan Carter has endured three of the industry's toughest challenges in recent years. However, Vaughan and his peers are overcoming these hurdles and are now focusing on new strategies to ensure the state's growers remain sustainable and profitable into the future. Michelle De'Lisle reports.

It has been a difficult four years for the Western Australian potato industry. It began with the deregulation of the state's potato market and the closure of Smith's Snackfood Company's Canning Vale potato processing factory in 2016, while in February 2017 the destructive pest tomato-potato psyllid (TPP) was detected in a Perth backyard.

WA Potatoes President Vaughan Carter was at the forefront of these events. WA Potatoes, formerly known as the Potato Growers Association of Western Australia, is the peak industry body representing around 80 potato growers across the state.

Vaughan is also a third-generation ware potato grower based in Busselton, and after 25 years of growing potatoes as well as many years of serving on the WA Potatoes Committee, he understands the complexities surrounding industry issues as well as identifying opportunities for growth and development. His role as WA Potatoes President is to chair the Committee of Management; listen to growers' concerns or ideas and relay them to the committee; and monitor industry developments, as well as assist with decisions that need to be made at the political, industry and local level.

### Industry challenges

Vaughan says the trifecta of major events in 2016-17 "turned the WA potato industry on its head".

"We're seeing a lot of oversupply on the market and a lot of variance in price," he explains.

He added that the deregulation of the WA potato market was a long process; one that involved WA Potatoes negotiating with the state government for an assistance package for the west's potato growers.

"We aimed for \$24 million – we didn't get that; we got \$12 million plus a \$2 million industry assistance package on top of that," Vaughan says.

"It was great job done by the growers, committee and management."

While TPP has posed a challenge in more recent times, some valuable lessons have emerged from the incursion.

"We've established that TPP doesn't carry the bacteria that causes zebra chip (*Candidatus Liberibacter solanacearum* or CLso), which has allowed us to trade back into the east. We see that as a positive," Vaughan says.

"WA is currently trading back into the east sending potatoes, but supply is slow – the east seems to be fairly flush at this point in time. But as we move forward, hopefully we'll see opportunities where we can fit some ware potatoes into the east and alleviate a bit of the oversupply on the local market."

### Export opinion

In a bid to look for new avenues for excess product, WA Potatoes is currently investigating viable export markets in regions such as the Middle East and Asia.

"It's all about building your business. We're isolated in WA as far as being able to expand and if there is surplus, it's very hard to shift because of freight costs into the east," he says.

"For my own business, the biggest thing for me now is to maintain what I'm doing and to try and expand. Trying to do that in the local market is going to be tough because WA consumers only eat 50-55,000 tonnes of potatoes per annum, and that is covered.

"For WA to expand, export is the key. We've been looking at overseas export opportunities, looking at what the overseas markets are needing, whether it be seed for propagation, product for chipping stock or fresh market potatoes. We've got consultants looking at it and using some of the industry package money to investigate it, and we are trying

to build that as quickly as we possibly can.”

Export is also an area that should be the focus of potato research and development, according to Vaughan.

“Anything about exports is big for WA. Like I say, we’re fairly controlled as to what volumes we can produce in WA for the fresh market. For expansion to happen (and to make it economically viable and enable businesses to grow), research into export is imperative.”

Vaughan added the export opportunities and ability to trade back into the east for seed growers in Albany were a “bonus”, as they were hardest hit by the psyllid incursion.

## Seizing opportunities

Closer to home, Vaughan has been instrumental in establishing the Busselton-Marybrook Grower Group with the aim of pooling growers’ knowledge to help to improve their businesses.

“We received some funding through the South West Catchments Council, which trialled different initiatives that could help growers’ businesses to improve productivity. We went down the line of soil health – we looked at organic matter, cover crops, rotation, soil types – and the grower group got involved which was great. We’ve seen a little bit of what we did rolling out now with growers, who found it beneficial,” Vaughan says.

Unfortunately, the group is slowing down its activities due to increased costs.

“It’s hard now because the dollar is so tight; growers are concentrating on just keeping their businesses afloat.

“The challenge at the moment is to keep them all together – we’re looking to do a few things with Heritage Seeds, which is a national company, and involving their knowledge on what’s beneficial for organic matter and rotational tools.”

## Future plans

Looking ahead, Vaughan hopes to maintain his own growing operation by continuing to produce potatoes for the fresh market as well as hopefully having the secondary option of export.

In the meantime, he is finding opportunities elsewhere: Vaughan has started growing blueberries in a bid to

maintain his business’ profitability.

“Expansion is tough on fresh markets. I really have to do something that will prop the business up – just a few more eggs in the basket I suppose,” he explains.

“If the potato industry does struggle, I’ve got something else in the pipeline and I’d be naïve to think potatoes are going to be ‘it’ forever. You just need to diversify in some things. I’ve got a trial plot and will see how it goes. If it goes okay, there’s no doubt I’ll do 50 per cent potatoes, 25 per cent of blueberries and 25 per cent in sheep (fat lambs).”

Despite his foray into blueberries, Vaughan remains positive about the WA potato industry and believes there are opportunities for the next generation of growers.

“WA is unique in that it’s fairly isolated. We produce some magnificent clean, disease-free seed; we’ve got a great seed certification scheme that allows us to produce some of the best seed in the country. And it’s sought-after. South Australia sources our seed for some of its production, and they love it – they know it’s good,” he says.

“That’s probably the greatest advantage in WA and that’s where we’re looking to create opportunities – our location and our very good biosecurity protocols contribute to our ability to produce good, clean product.”



Photography by Chris Kershaw



## Potato exports bounce back in 2018

After experiencing a decline in 2017, Australian potato exports have increased again in 2018, particularly across new and existing markets in south-east Asia. *Potatoes Australia* provides a snapshot of these statistics and the key international markets for the commodity.

Australian potato growers are increasingly meeting the demand for their produce in both new and existing export markets, after both the value and volume of Australian potato exports experienced strong growth in 2018, particularly in the second half of the year.

According to *Global Trade Atlas*, Australian potato exports (excluding seed potatoes) increased 23 per cent in value to AUD\$31 million, while volume increased 27 per cent to over 40,000 tonnes.

This is encouraging news for the industry after potato exports decreased slightly in 2017.

### Key markets

South Korea retained its position as the leading market for Australian potato exports. While the country imported a slightly lower tonnage than the previous year, the value of this market increased six per cent to AUD\$12.3 million.

Other strong performing export markets in 2018 included Singapore (which grew 28 per cent in value to AUD\$3.2 million), Malaysia (12 per cent increase to AUD\$2.3 million) and Hong Kong (12 per cent increase to AUD\$2.2 million).

The volume of Australian potato exports also performed well in these markets, with Singapore importing over 2,000 tonnes of potatoes (18.5 per cent increase), while around 1,870 tonnes were sent to Malaysia (18.7 per cent increase) and over 1,600 tonnes to Hong Kong (18 per cent increase).

In 2018, the Philippines experienced a spike in imports of Australian potatoes, importing 4,600 tonnes worth over AUD\$2.8 million. Other smaller markets such as Vietnam also experienced growth, with over 200 per cent increase in both the value and volume of Australian potato exports.

### New developments

Despite the fall in potato exports to Indonesia in 2018, which declined 36 per cent to AUD\$1.4 million, potatoes continued to be the top vegetable commodity exported to the country in the 2017/18 financial year. Implementation of the Indonesia-Australia Comprehensive Economic Partnership Agreement (IA-CEPA) will see Indonesia establish an import quota for Australian potatoes for 10,000 tonnes per year, growing to

12,500 tonnes per year after five years. This will help to secure Indonesia's position as a primary market for Australian potato exports.

AUSVEG National Manager – Export Development Michael Coote said it was an encouraging sign that the Australian potato industry is continuing to experience solid growth in its exports.

“The potato sector is contributing strongly to help reach Australia's ambitious target of AUD\$315 million in fresh vegetable exports by 2020, as outlined by the industry's export strategy,” Mr Coote said.

“It is pleasing to see the potato industry recover in 2018 with strong export growth in new and existing markets, particularly as Australian-grown potatoes are a commodity that is highly sought-after in different high-value Asian markets.”

AUSVEG, Hort Innovation and other industry groups will continue to work with growers to ensure they have the skills and know-how to improve their ability to export their produce and capitalise on increasing demand for fresh, Australian-grown produce.

Find out more 

Please contact AUSVEG National Manager – Export Development Michael Coote on 03 9882 0277 or michael.coote@ausveg.com.au.

Table 1: Value and volume of Australian potato exports 2018 (excluding seed potatoes)

Country	Value 2018 (AUD\$)	Change (%)	Volume 2018 (t)	Change (%)
South Korea	12.3 million	+6	19,726	-2.6
Singapore	3.2 million	+28	2,078	+18.5
Philippines	2.8 million	+4,278	4,600	+4,500
United Arab Emirates	2.4 million	-5.5	1,848	+1.4
Malaysia	2.3 million	+12	1,870	+18.7
Hong Kong	2.2 million	+12	1,621	+18
Indonesia	1.4 million	-36	1,759	-39
Taiwan	823,762	-26	766	-5
Vietnam	388,440	+207	747	+207
All countries	31 million	+23	40,165	+27



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## Keep the TPP conversation going

National TPP Coordinator Alan Nankivell explains why potato growers should continue to prepare for a tomato-potato psyllid or zebra chip detection, and the steps they can take to improve their knowledge of this pest and the bacterium it can vector.



Yellow sticky traps are imperative to help growers, industry and the public monitor for tomato-potato psyllid.

Tomato-potato psyllid (TPP) has been known to be in Western Australia for over two years now, and it is the only known vector of *Candidatus Liberibacter solanacearum* (CLso).

CLso is the bacterium that causes zebra chip in potato tubers. As a result, there is significant economic impact due to the loss of infected product. When TPP was detected, it was assumed that it would only be a matter of time before CLso was also found. During the spring-autumn season of 2017-18, over 30,000 trapped psyllids were tested, and it was independently validated that no CLso was present, which is the first time in the world this appears to have occurred.

At the time of writing, subsequent testing of TPP during the 2018-19 season has continued to confirm the earlier finding that CLso is still not present in Western Australia. All other jurisdictions have continued to monitor for TPP but are yet to detect it.

However, it is important that complacency does not set in. CLso remains an exotic plant pest of major significance and could appear anywhere in Australia. Grower vigilance remains paramount.

A review of the preparedness for CLso is currently underway to consider a range of scenarios of CLso arriving on our shores. I welcome hearing of any situations that might occur so that they can be assessed at the risk level, and the appropriate level of protection that will be required. Please email or call me (my details can be found below).

### Keep monitoring

As Western Australia has been declared CLso-free, the other Australian jurisdictions have opened trade for potato tubers.

The view of scientists is that TPP will continue to naturally spread but this can be slowed through implementing best practice farm gate hygiene and monitoring the movement of contractors and suppliers who visit the farm. Another important practice used internationally is

to implement on-farm surveillance traps. This will assist in knowing where TPP is and where it isn't; as well as providing valuable on-farm information about the size of the infestation.

It may not seem important to undertake monitoring if TPP is not present, but how will you gain an early warning without monitoring? Previous grower experience has been that if they find TPP, they will be economically impacted by legally-imposed quarantine. This will no longer be the case in Western Australia, and with the commitment of the jurisdictions of Queensland, New South Wales, Victoria and South Australia to common movement conditions, then business will continue.

Does this mean we forget about TPP and CLso? Definitely not! Management is essential to maintain on-farm viability. All growers need to learn more about TPP and CLso. Talk about it with your neighbours, suppliers and customers. Monitor your crops for TPP and potential biological control agents.

Also, hold grower meetings and invite me to speak and, importantly, listen to your concerns regarding the management of TPP, where it is and what to do when it arrives.

#### Find out more R&D

Please contact National TPP Coordinator Alan Nankivell at [alan.nankivell@ausveg.com.au](mailto:alan.nankivell@ausveg.com.au).

To assist in gaining a greater understanding of TPP and CLso, a specific portal has been established at [ausveg.com.au/tpp](http://ausveg.com.au/tpp).

*National tomato potato psyllid (TPP) program coordinator* has been funded by Hort Innovation using the fresh potato, potato processing and vegetable research and development levies and contributions from the Australian Government.

Project Number: MT16018

**Hort  
Innovation**



The group at Terrace Downs Resort. Back row L-R: Michelle Trigg, Elizabeth Wharton, Callum Fletcher, Ashley Labbett, Pauline McPherson, Darryl Smith, Chris Ayres, Simon Moltoni, Peter Britt, Patrick Fox, James Downey and Stuart Jennings. Front row L-R: Daryl Johnson, Tony Trigg, Alan Parker, Gary Crick, Stewart McKay and Mark Peters.

## Psyllid takes centre stage on Australian potato grower tour

Australian potato industry members embarked on an overseas adventure to New Zealand's Canterbury region from 12-15 February, where 19 representatives from Victoria, Tasmania and Western Australia gained an insight into tomato-potato psyllid and how the New Zealand potato industry has managed this pest. Elizabeth Wharton from Sebright Adventures reports.

This potato industry tour to New Zealand was proactively developed by Seed Potatoes Victoria (SPV) in response to grower concerns of their preparedness for TPP if it is detected in the eastern states of Australia.

Organised by Sebright Adventures, the tour provided an overview of TPP research, in-field management and supply chain implications. Participants also discovered the diversification and irrigation practices of New Zealand farmers, which are vastly different to those currently used in most parts of Australia. Seeing these differences enabled participants to broaden their thinking about possibilities for their own farms, and spread business risk by having many income streams from a range of agricultural sources.

### Industry insight

Plant & Food Research New Zealand's Lincoln site was the first stop for the group. Kerry Hughes, a director at seed potato merchant Alex McDonald, provided an overview of the seed potato industry to help attendees understand the dynamics and intricacies of potatoes in New Zealand. The group also met with

New Zealand's key scientific team leading TPP research for a Q&A session. TPP samples were shown under microscopes to provide growers with the opportunity to see this insect first-hand.

During a visit to New World Lincoln supermarket, the group met with Fresh Produce Manager Navjeet Sharma. Participants marvelled at the elaborate packaging used to sell potatoes and the depth of information available to consumers through in-store signage on potato varieties and on product packaging. Such marketing is not currently practiced in Australia but was seen as an opportunity for extensive value-adding, with potential to boost sales and customer awareness.

Later that evening, the group enjoyed a presentation from TPP researcher Jessica Dohmen-Vereijssen, who provided more in-depth knowledge of this pest.

### Growers' field day

On day two, the group headed south-east to the scenic seed growing region around Methven, and spent time on-farm visiting growers and trial sites. Aberdeen Farm, owned and operated by the families of Richard and Hamish Redfern,

demonstrated the importance of crop diversification and good farm hygiene. Richard is currently Chairman of the New Zealand Seed Potato Certification Authority, and grows pasture seed, wheat, barley, seed potatoes, and 5,500 prime lambs among others on the 530-hectare property. The group also visited Andy Innes at Innesfields Farm where they saw potato coolstores, grading equipment and machinery for potato cropping.

Travelling to Rakaia, the group met with Tim Pike from Mid Canterbury Growers to discuss TPP management, soil nutrition and crop management practices. Participants heard how TPP has impacted each grower's operation differently and is being managed on a case-by-case basis.

After lunch, participants joined New Zealand potato growers at the annual grower field walk organised by Potatoes New Zealand and Plant & Food Research. The first site visited was a TPP-infected crop where scientists were on-hand to run through the impact of TPP on plants and pest identification. Growers found this visit immensely useful to identify the insect, infected tubers and plant symptoms. →



Hamish McFarlane shows the group a crop of Innovator potatoes.



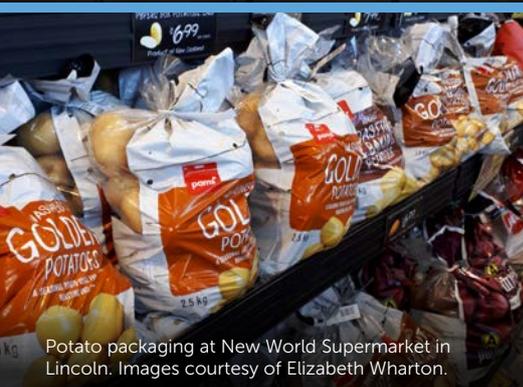
The Grimme Spudnik 6621 machine in action at Hewson Farms.



The coolstore at Turley Farm.



A Q&A session with TPP scientists at Plant & Food Research New Zealand.



Potato packaging at New World Supermarket in Lincoln. Images courtesy of Elizabeth Wharton.

The second site south of Ashburton is trialling a Teralytic soil nutrient probe, which uses world-first technology to gather detailed data that is relayed back to the farm manager or others as required. There is potential for Australian growers to adopt this technology in the future.

The day culminated with a dinner, which brought together 50 industry stakeholders from Australia and New Zealand to strengthen networks and develop prospects for industry collaboration. Canterbury District Mayor Donna Favel welcomed guests while Potatoes New Zealand CEO Chris Claridge emceed the evening. United Kingdom potato agronomist John Sarup also provided an insightful presentation about the UK's potato industry and possibilities for the industry moving forward.

### Innovation in focus

Farm visits continued throughout day three. At Hewson Farms in Pendarves, participants received the opportunity to see the only Grimme Spudnik 6621 machine in the southern hemisphere. Ross Hewson and Nigel Prattley from Landpower explained this extensive farming operation and demonstrated potato harvesting in action. The Spudnik 6621 is capable of separating stones from potatoes and soil in-field to harvest 1,000 tonnes of potatoes per day. Tour members were keen to see how potato harvesting and growing practices compare with Australia, and whether such technology could be made available back home. Hewson Farms is fully irrigated using mostly centre pivots and laterals, which enable large-scale vegetable and arable crop production.

Next, Hamish McFarlane greeted the group at one of his properties near Orton. McFarlane Agriculture is in partnership with McFlynn Potatoes, which has diversified across different crops and livestock enterprises. Blackcurrant crops were on show as well as a crop of Innovator potatoes, where Hamish took the group in-field to highlight crop management techniques and tuber characteristics.

The final farm visit was a 2,800-hectare property owned and operated by Murray Turley. Turley Farms highlighted the importance of thinking ahead, working together with other industry members for the greater good, and spreading

risk. Onion grading and harvesting was on show, as well as in-field discussions with Murray. Attendees marvelled at the enormous storage facilities on-site and custom-built storage bins, with the sheer scale of the operation hard to fathom.

After a busy day on-farm, the group relaxed over dinner in Timaru where they were joined by AUSVEG CEO James Whiteside, Chair Bill Bulmer and Deputy Chair Belinda Adams. Their attendance provided insightful contributions to conversations throughout the evening and valuable insights into agricultural industries. The guest speaker was Seed & Field Services New Zealand Potato Agronomist Duncan McLeod, who provided the perfect summary of TPP in New Zealand, bringing together all the information and sites that participants had experienced over the previous days.

On the final day, the group visited vertically-integrated business Heartland Crisping to hear its story, and how the founding Bowan family decided to take their potato growing Fallgate Farm and invest vertically through the supply chain to own and operate a processing company and manage distribution of their product. This visit was the highlight for many attendees, who were greatly appreciative of the Bowan family sharing their business insights.

### A collaborative effort

Throughout the tour, New Zealand seed potato manager Iain Kirkwood and Landpower Grimme Machinery specialist Nigel Prattley joined the group, sharing their significant expertise. The time, assistance and support of Potatoes New Zealand, Plant & Food Research, Grimme, Alex McDonald, and all the farms and sites visited is greatly appreciated and made the whole tour experience possible. The support, knowledge sharing and collaboration from industry, both in Australia and New Zealand, makes such tours possible, and ensures that responses to pests such as TPP can be managed using the latest research and industry practices. This will enable faster and more effective action across the supply chain.

It is hoped that similar tours can be held in future to assist other industry members to learn more about a specific topic of interest, and to assist them to become more competitive in their industries.

## Case study: Patrick Fox travels across the ditch for psyllid experience

Western Australian seed potato grower and exporter Patrick Fox attended the tomato-potato psyllid (TPP) tour of New Zealand to learn from international growers who are managing *Candidatus Liberibacter solanacearum* (CLso), the bacterium vectored by TPP which causes zebra chip in potatoes.

"Luckily it hasn't been detected over here yet, but it's something that we're going to have to deal with in future years," Patrick said.

The highlight for Patrick was talking to his New Zealand counterparts about TPP and zebra chip, and discussing the crop protection products and regimes they are currently undertaking to fight this highly destructive pest and disease. It wasn't all bad news though.

"Despite them having the psyllid and

CLso, it's still manageable and it's not the end of the world if you do get it," Patrick said.

"New Zealand growers have implemented some really good procedures and spray programs, and surprisingly enough we heard (TPP/CLso) apparently isn't their biggest issue of concern with growing potatoes over there. That was more PVY, which was quite reassuring to hear and gives you a bit of confidence moving forward.

"The detection of TPP/CLso has actually improved their overall domestic seed industry as now commercial growers have implemented strict weekly insecticide programs whereas previously they were doing the minimum, if at all, which has now resulted in decreased virus levels."

Patrick said the New Zealand potato industry worked well together in a cooperative spirit.

"They bounce ideas off each other, which is probably something we don't do here in Australia. There are a lot of points we can pick up from the New Zealanders, including any practices we can implement back here to make our operations more successful and viable."

Another benefit of attending the tour was the ability to network with other growers from Australia. Patrick has attended two international grower tours and has remained in contact with other participants.

"It's always good to get the industry perspective from the east coast and bounce ideas off each other. That's a valuable tool."

### Find out more

Please contact Sebright Adventures Chief Experience Officer Elizabeth Wharton on 0484 902 702 or email [sebrightadventures@outlook.com](mailto:sebrightadventures@outlook.com).

## B-Quad vehicle access to improve SA grower productivity

Following a year of negotiations, AUSVEG SA and Symons Clark Logistics have successfully secured B-Quad vehicle access for South Australian potato and vegetable growers along Taylor's Road in Virginia.

Increased transport access for high volume trucks has been an issue for many large horticultural enterprises across the Virginia region in recent years. As these growing operations expand, they are searching for alternatives to decrease truck movement; move more produce in and out of their operations, therefore increasing efficiencies; reduce their carbon footprint with less trucks on the road; and ultimately, improve safety both on the local roads and on-farm.

In recent years, regulators have been hesitant to approve road train access to many roads in the Northern Adelaide Plains region; however, new configurations such as the B-Quad offer opportunities to open new areas to higher volume transport options. The B-Quad configuration is able to transport up to 64 tonnes of produce such as potatoes and

onions at once and, because it has more manoeuvrability, regulators are more open to approving its use on a wider range of roads and situations such as roundabouts.

Virginia Farm Produce Commercial Business Manager and AUSVEG SA Board member Ryan Densley said the decision was a win for the horticulture industry.

"We're now looking at halving our truck movements, which is phenomenal. That just means it's a safer environment. We have less movement, less often; and it's easier for our operations," Mr Densley said.

"It's not only about management of movement, it's more movements less often. For example, if you come into a production flush and you need to bring in a large volume of product quickly, we've now got the opportunity to do that faster."

Although opening Taylor's Road to B-Quad vehicles is good news for the industry, there is further opportunity to improve other roads in the region.

"We've understood our traffic pattern; now what we need to do is extend that and have a bigger snapshot of the Virginia area, where that truck flow moves

through Taylors Road, and where it ends up," Mr Densley said.

"We've got to have a helicopter view of where these truck patterns are and try to solve a few more issues."

AUSVEG SA is currently working with large producers throughout the state to investigate opportunities to improve efficiencies through B-Quad transport approvals. The association is keen to progress further approvals with local government in the future as well as discuss opportunities with interstate grower groups.

### Find out more

Please contact AUSVEG SA CEO Jordan Brooke-Barnett on 0404 772 308 or [jordan.brooke-barnett@ausveg.com.au](mailto:jordan.brooke-barnett@ausveg.com.au) or Ryan Densley on 0428 357 630 or [ryan@virginiafarm.net.au](mailto:ryan@virginiafarm.net.au).



L-R: Peter McEvoy from Fairbanks Seeds discusses tuber set and seed maturity of variety Lilly<sup>PBR</sup> with Mark Peters, a specialist early generation seed grower in Portland, Victoria.

## Global potato partnership to benefit Australian growers

**A family-owned Victorian seed supplier's bold venture into the potato industry is paying off after forging a partnership with a well-established European potato breeder and seed distributor. Gretel Sneath reports.**

Australia's vegetable seed industry may be dominated by some major multi-national players, but a new partnership forged by a family-owned company is looking to alter the landscape. Fairbanks Seeds and German potato breeder Solana GmbH & Co have teamed up to bring a selection of world-leading genetics down under, and Australian growers are expected to benefit from the exclusive deal.

With potato varieties such as Verdi landing in Australia for the first time, Fairbanks Seeds agronomist Peter McEvoy said the industry can now operate on a more level playing field.

"In the vegetable seed industry, every grower typically has access to the latest and greatest genetics, but in the potato industry, some of the top varieties have been secured in exclusive arrangements with certain packhouses, growers and supermarkets," he explained.

"We want to give all growers and processors access to a premium mix of fit-for-purpose varieties that offer significant improvements in yield attributes, disease resistance and eating quality."

Fairbanks Seeds has been trading a broad variety of vegetable and salad seeds for more than 90 years, but Mr McEvoy said potatoes were new territory.

"None of the seed companies have ventured into this market segment, and although we previously had no experience in the potato industry, Solana was impressed with our focus on product development and the groundwork that we put in with trials, crop assessment reports and grower feedback," he said.

"We have a saying in the vegetable industry that the best genetics always win, and from our perspective, we're really confident about the quality of the varieties that Solana has developed."

### Investigating suitability

Solana's range comprises about 60 different potato varieties for every intended climate zone and purpose in markets around the world, and rigorous testing is now underway to identify the most suitable high-performance varieties for Australian conditions.

"We looked very carefully at the performance of certain varieties that are really excelling in harsh, arid climates like Egypt and the Middle East, but also those that perform really well in milder growing areas in parts of Europe like Germany and the Netherlands," Mr McEvoy explains.

Portland seed potato grower Mark Peters is one of several growers undertaking certified seed potato production for Fairbanks Seeds. He currently has seven varieties of first- and second-generation mini-tubers planted on his mixed farming enterprise approximately 400 kilometres south-west of Melbourne.

"It's always good to have a new company come into the industry that offers a bit of competition to the other guys, and we're seeing some really positive growth with some of the varieties; they seem to be setting good numbers – so far, so good," Mr Peters said.

"As early generation seed growers, it's exciting to have new varieties – everyone is trying to find that perfect potato, and it takes a bit of finding."

Further trials have been undertaken in other parts of Victoria, along with Queensland, northern New South Wales, and South Australia's Mallee region. Mr McEvoy says grower feedback is pleasing.

"At the end of the day, we want to improve the potato quality for the consumer and enable the grower to have good product, so if it ticks the boxes in the paddock but also offers that eating quality and versatility in the end-use, that's a really big thing," he says.

"A lot of growers want something that can do a bit of everything, and a couple of the varieties that we have will do that, so that's an exciting prospect to replace those older varieties that have been grown for a really long time but can have agronomic issues."

Mr McEvoy says Solana's Belmonda variety, with its salt, heat and drought tolerance, has been performing exceptionally well, while Red Lady has impressed with its early maturity and high yield. Verdi has also been a stand-out for its ability to retain quality in long-term cold storage.

"Verdi's factory performance around the world is second to none, which is exciting news for Australian growers. For the

crisping market, it's globally recognised as one of the best long-term cold storage varieties due to its ability to retain fry colour and maintain high specific gravity after storage, and that represents a real opportunity," he says.

### Further trials

Fairbanks Seeds is now moving into more extensive early-stage seed production and commercial trials in many growing regions throughout Victoria, Queensland, New South Wales and South Australia.

"Inevitably some varieties may not succeed, so we want to be able to manage that risk without having big volumes that you then can't move at a later date," Mr McEvoy said.

"We're really confident that we will be able to help growers achieve the right result with the right agronomy and growing techniques, and in the end, the best varieties will win."

There are also potential export opportunities for Australian growers, according to Mr McEvoy.

"As a long-term possibility, there is potential to see our Fairbanks customers exporting to large seed markets like Asia – Australia has such high standards of seed certification that we really should be able to send them anywhere in the world and know that they will perform well.

"There are a lot of disease threats in the global potato seed industry, but there are a lot of bright lights as well."

#### Find out more

Please visit [fairbanks.com.au](http://fairbanks.com.au).



Excellent quality early generation seed is typical from Mark Peters. Images courtesy of Gretel Sneath.

## Thorpdale celebrates the humble spud

Hessians on the Field. A pallet throw. Woodchopping. Sheepdog trials. These were just some of the many activities that took place at the 2019 Thorpdale Potato Festival on Sunday 10 March.

Held in Victoria's Gippsland region, the biennial event attracted 8,000 people over a single day, with all proceeds from entry fees going to community groups located in Thorpdale and its surrounding areas.

Thorpdale Potato Festival President Paul McLure said it was quite pleasing to have 8,000 people attend this year's event.

"It's just the input back into the community, and it's a social day out. Families can take a break and catch up with friends that they may not see that often," Mr McLure said.

The day attracted both international and interstate guests, particularly as it was held in conjunction with sheep dog trials for the first time.

### A new experience

Thorpdale potato grower Stuart Jennings was the emcee of the sheep shearing demonstrations on the day and said while it was a celebration of the potato industry, events such as the sheep dog trials and the shearing made the potato festival unique.

"A lot of people were getting really excited about the fact that they could bring their kids and show them potatoes and that they are not just from the supermarket – they are grown in the ground," Mr Jennings said.

"I also had people come up to me and talk about sheep's wool. They said the kids just love it as they haven't seen a sheep being shorn before and I think being around this all the time, you just become used to it. Whereas these people have never seen it – they really find it quite amazing and it's an experience for them."

Both Mr McLure and Mr Jennings said that the festival is a way of raising money outside of the community.

"This was a way to bring money into the area other than just having money circulating around the area," Mr Jennings said.

"The whole point of it is to celebrate potatoes and to celebrate harvest. The main reason is to get people in to check out the area and hopefully they will spend their cash while they're here – and celebrate the spuds."

#### Find out more

Please visit [thorpdalepotatofestival.com.au](http://thorpdalepotatofestival.com.au).



Images courtesy of Barbara Butterworth.

What to expect at

# HORT CONNECTIONS

24-26 June 2019  
Melbourne Convention Centre

GROWING OUR FOOD FUTURE



**AUSVEG and PMA Australia-New Zealand Limited (PMA A-NZ) have again united to deliver Hort Connections 2019, the joint industry conference and Trade Show to be held at the Melbourne Convention and Exhibition Centre (MCEC) from 24-26 June.**

**Following on from previous events, this year's conference is set to become the most influential space for networking, education and business for the fresh produce industry.**

**Here's a taste of what to expect at Hort Connections 2019.**



## Growing our food future

Horticulture industry members will be inspired to aim high at Hort Connections 2019, with the theme 'Growing our Food Future' headlining the conference and bringing together thousands of local and international attendees to discuss on-farm and supply chain practices, review consumer behaviour and consumption trends, and focus on the future of food production.

## Potato Industry R&D Forum

**Wednesday 26 June,  
9.00am - 2.00pm, MCEC**

Potato growers and industry members are invited to the Potato Industry R&D Forum and networking lunch, which will feature international speakers, researchers, agronomists and other growers discussing R&D outcomes and their experiences of managing key pests and diseases. In particular the forum will focus on:

### **Powdery scab**

- + How do suppressive soils work and what can you do to create them?
- + How does powdery scab infect potato roots - do some varieties resist infection?
- + Use of precision systems (e.g. EM38, yield, pathogen and DNA mapping) to improve overall productivity.

### **Tomato-potato psyllid (TPP)**

- + Lessons from the New Zealand and Western Australian experiences.
- + Preventing the spread of TPP in Australia.
- + How can TPP be managed on-farm?

The forum will also include brief updates and interactive sessions on:

- + Managing pests using an Integrated Pest Management (IPM) approach: experiences of King Island growers using IPM.
- + Experiences using PREDICTA Pt on-farm and in research trials: how testing can benefit your bottom line.
- + New tests available as part of the PREDICTA Pt service.

The forum will also showcase the *Potato Growers' Biosecurity Manual* and updates to the Biosecurity Plan, as well as outcomes from the recent review on seed handling and quality.

Discussion will focus on how this information will help you within your business.

Most importantly you will have the opportunity to have your say about key challenges and opportunities for your business and what research, development and extension you would like to see to address these during a facilitated workshop session.

For more information please contact **Kristen Stirling** at RMCg on 0488 908 416 or [kristens@rmcg.com.au](mailto:kristens@rmcg.com.au).

## Range of speakers confirmed

### Plenary Session

Delegates will hear from keynote speakers during the Plenary Session, sponsored by Hort Innovation, on Tuesday 25 June from 8.00am - 11.00am. Keynote speakers include celebrity chef, author, TV presenter and *MasterChef* winner **Adam Liaw**, who will bring a unique view of the food industry to Hort Connections as he shares his expert insights in the food service sector with delegates.

**Sandro Demaio**, an experienced medical professional and co-host of the ABC's factual medical series *Ask the Doctor*, has worked for the United Nations and now leads EAT, the science-based, global platform for food systems transformation. He will speak to delegates about his interest in improving the health and nutrition of Australians.

Meanwhile, **Samantha Gash** will draw on her experience as a corporate lawyer, endurance athlete, writer and social entrepreneur to entertain delegates with a different perspective on achieving social change through the vehicle of adventure and running.

### Concurrent Sessions

A range of concurrent speaker sessions will be held during Hort Connections 2019. Firstly, the AUSVEG Stream and PMA A-NZ Stream will be held from 2.00pm - 4.40pm on Tuesday 25 June.

Three concurrent sessions will start the day on Wednesday 26 June from 8.00am - 10.30am. The 'Growing & Farming' stream will include a presentation from **Chris Russell**, known to many as a judge on the weekly ABC television series *The New Inventors*, who has worked in advisory and agricultural research in over 20 countries.

The second stream, 'Over the Horizon', will feature a presentation from Think Digital's **Tim Gentle**, who will showcase immersive technologies such as virtual reality and augmented reality and how they could be integrated into growing operations and the wider industry.

Finally, the 'Supply Chain & Consumers' concurrent session will include speaker **Chow-Ming Lee** from Bayer, who is responsible for sensory and consumer testing of fruit and vegetables in both American and European markets.

## Networking opportunities galore

### Breakfast Sessions

To fuel up for an information-packed conference, two breakfast sessions will be held from 7.00am - 8.00am on Tuesday 25 June (sponsored by Perfection Fresh) and Wednesday 26 June (sponsored by Syngenta) at the Melbourne Room at MCEC.

### Welcome Reception and Trade Show

The Trade Show at Hort Connections 2019 is the most expansive yet, featuring over 300 booths for delegates to explore. Sponsored by Fresh Markets Australia and the Central Markets Association of Australia, the Trade Show will officially open on Monday 24 June from 6.30pm - 9.00pm following the Welcome Reception, and will reopen from 11.00am for the remainder of the conference. Make sure you don't miss the Trade Show Networking Hour from 5.00pm - 6.00pm on Tuesday 25 June. A range of speaker sessions will also be held during the Trade Show throughout the conference.

### Fresh Perspectives & Women in Horticulture Sessions

On Wednesday 26 June, all delegates are welcome to attend the PMA A-NZ Fresh

Perspectives - Diversity & Inclusion Session from 1.30pm - 2.30pm at MCEC. The Women in Horticulture Session, sponsored by Boomaroo Nurseries, will be held immediately afterwards from 2.30pm - 4.00pm and will focus on the themes of developing resilience and maintaining wellness. Keynote speakers include conservationist **Dr Tammie Matson** and **Josie Thompson**, and the event will conclude with the acknowledgement of the nominees for the 2019 Women in Horticulture award. A special charity partner will also be confirmed in coming weeks.

## Celebrate excellence at the Gala Dinner

**Wednesday 26 June,  
7.30pm - 11.00pm,  
Crown Palladium**

This year's Hort Connections Gala Dinner will be held within the spectacular setting of the Palladium at Crown, described as Australia's premier ballroom. The 2019 National Awards for Excellence will be presented during the Gala Dinner to acknowledge and recognise the outstanding contributions that individuals and companies make to the Australian horticulture industry. With 10 award categories to present, there are plenty of opportunities for our industry to recognise the hard work that countless individuals put in to help our industry succeed.

Nominations for the National Awards for Excellence are now open, so if you know a grower or other industry member who deserves recognition, fill out our online form at [hortconnections.com.au](http://hortconnections.com.au).

**Visit [hortconnections.com.au](http://hortconnections.com.au) for more information on the program, speakers or to register online. You can also email [info@hortconnections.com.au](mailto:info@hortconnections.com.au).**



## Reviewing best practice for potato soft rot and blackleg

The detection of an exotic bacterium that causes potato blackleg disease in Western Australia in 2017 prompted a review of world literature and recommendations to the Australian potato industry. Plant pathologist Dr Len Tesoriero conducted the review and he shares the key findings and R&D gaps for industry with *Potatoes Australia*.

The soft rot bacterial species *Dickeya* and *Pectobacterium* are listed globally in the top 10 of important bacterial plant pathogens based on their economic impact. They are comprised of a genetically diverse group of plant pathogens affecting a wide range of plant species.

Globally there has been some alarm in recent years at the increasing diversity and geographical spread of bacterial pathogens that cause potato blackleg and soft rots. Their host ranges can extend across many other horticultural commodities, which further complicate biosecurity arrangements and trade.

Postharvest losses are greatest in poorer countries that lack refrigerated cool chain practices. In Australia, crop losses from potato blackleg disease are generally considered to be low; however, there are cases of greater losses occurring when wet and windy weather conditions prevail, or of soft rots developing after planting seed tubers into warmer soils.

Unfortunately, there are some species described overseas that cause serious potato diseases that have not been recorded in Australia. Our 'pest-free' status is not assured though, for three key reasons:

1. There have been few potato crop surveys targeting these pathogens.
2. These bacteria have undergone several name changes over the past decades.
3. Several newly-named species and subspecies have been reported with the use of genetic classification techniques.

This has led to confusion with our pathogen records. For example, isolates preserved in state bacterial collections may now have different names. This raises the question: is it possible that we already have some of these proposed biosecurity threats?

### Multiple hosts – our open biosecurity pathways

Many of these bacteria can also infect other plant species. For instance, ornamental bulbs have been shown to spread some of these bacterial pathogens overseas. One recent case from China reported the detection of the serious potato soft rot pathogen, *Dickeya solani*, in hyacinth bulbs originating in Europe.

This suggests Australia has an open pathway for the introduction of these bacteria as we have a long history of importing bulbs. Similarly, vegetative plant material imported for the nursery and cut flower industries could be symptomless carriers of some of these bacteria. Indeed, the Western Australian detection of the *Dickeya dianthicola* bacterium causing blackleg in 2017 was a lesson of how these bacteria can spread between different commodities. It has been determined that dahlia bulbs grown in the field prior to the potatoes were the likely origin of the bacterium in this case.

### Current best management practices

Unfortunately there are no simple solutions to controlling bacterial plant diseases. However, a key recommendation is to re-focus attention on the best management practices that can currently be implemented. For instance, the disease preventative role pertaining to using certified seed was reported in the June/July 2018 edition of *Potatoes Australia*.

Following are a number of integrated management options for potato blackleg and soft rots that growers should implement on-farm.

- Planting whole seed rather than cut seed, particularly in regions where tuber soft rot and blackleg diseases

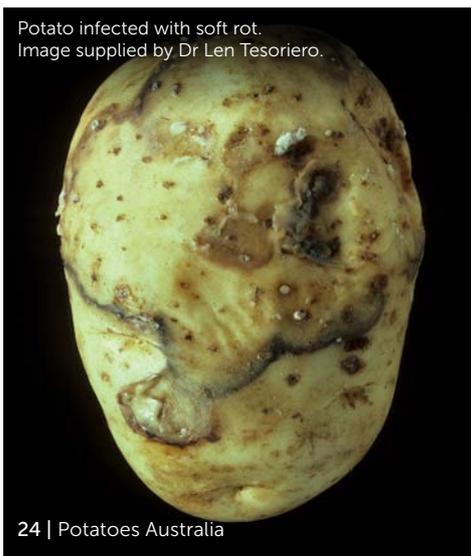
have been a problem (such as in warm or wet soils).

- Scheduling planting to avoid periods when extremely wet conditions or high temperatures prevail.
- Using long crop rotations of 2-8 years, particularly for seed production.
- Avoiding risks of cross-contamination between alternative host crops such as ornamental bulbs or vegetable crops grown in the same fields, or using machinery or personnel that could spread bacteria on a farm.
- Manage plant insect pests to avoid physical injuries to tubers, roots and stems that provide entry sites for bacteria.
- Potato processing companies use modern coolstores (such as Dutch environment control technologies) for potatoes, which have led to significantly reduced postharvest losses from tuber breakdown due to soft rot bacteria.
- Careful management of plant nutrition and soil moisture. Maintaining optimal calcium and magnesium levels in plants, and optimal soil moisture through irrigation management and adequate drainage are well-known management strategies to help plants resist blackleg and soft rot infections.

Australian horticulture does not permit the use of antibiotics and where they have been used overseas, a rapid development of resistance in bacterial populations ensued or their use has been discontinued due to other environmental health concerns. Similarly, disinfection of potato tubers by steaming, hot dry air, ultraviolet radiation and various inorganic salts and antimicrobials have been investigated and were found to have some efficacy under controlled experimental conditions, but have not been proven effective in practice.

There are no single genes known that confer resistance to these bacterial pathogens and given their wide genetic diversity and propensity to acquire new genes, it is unlikely conventional breeding programs will yield anything more than varieties with reduced susceptibility to certain bacterial strains.

Potato infected with soft rot.  
Image supplied by Dr Len Tesoriero.





Blackleg in a potato crop. Image courtesy of Barbara Hall, SARDI.

Current overseas research with novel genome editing technologies such as CRISPR and breeding programs based on diploid potato lines may provide future promise (diploid is a cell or an organism consisting of two sets of chromosomes – standard potato varieties are tetraploid, that is, with four sets of chromosomes).

### Looking ahead

There are competing interests when considering a way forward. On the one hand, accurately estimating biosecurity risks and implementing appropriate mitigation or management strategies for these bacteria would require surveying and determining the current status of the Australian potato industry.

However, there may be economic implications that follow from reporting bacteria not previously recorded in Australia. In particular, export and interstate trade in seed or ware potatoes may be adversely affected. Closing the perceived open biosecurity pathway by tightening quality controls for imported ornamental bulbs and vegetative nursery plants and cut flowers also comes with an economic cost and requires negotiations with other industries and government agencies.

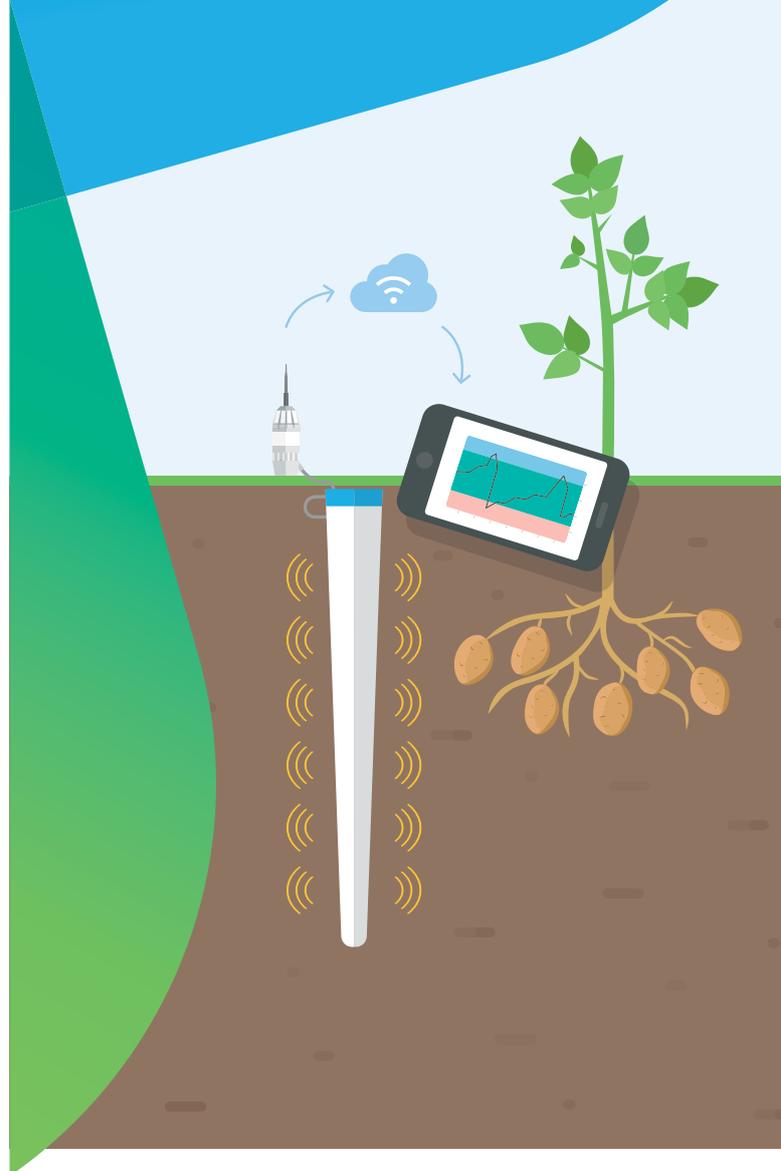
At the very least, the potato industry should consider the following approach as a way forward:

1. Review the bacteria that are currently lodged in Australian collections.
2. Access and validate new diagnostic tests which include the capability to distinguish important subspecies of these bacterial pathogens. Test validation will need to ensure there is no interference from related environmental bacterial species.
3. There are current R&D projects in the vegetable and nursery industries that should focus on characterising bacteria that may also impact potatoes.

These studies will inform authorities of any need to review potato seed production guidelines and any considerations for national and regional quarantine and biosecurity.

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#### Find out more

Please contact Dr Len Tesoriero at [len.tesoriero@dpi.nsw.gov.au](mailto:len.tesoriero@dpi.nsw.gov.au).

The final report for *Review of bacterial blackleg diseases and R&D gaps with a focus on the potato industry* is available on InfoVeg. This project was funded by Hort Innovation using the fresh potato and potato processing research and development levies and contributions from the Australian Government.

Project Number: PT18000

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# Using beneficial fungi in potato crops

In an attempt to grow a higher quality crop and improve the health of his soils, Victorian potato and vegetable grower Richard Hawkes trialled a plant and soil enhancement product that contains the beneficial fungi mycorrhizae. This has produced encouraging results for Richard's kipfler potatoes, as *Potatoes Australia* reports.

Richard Hawkes is Farm Manager of the family-owned Hawkes Farm at Boneo on Victoria's Mornington Peninsula. While the farm grows a range of vegetables, which Hawkes Farm sells through its farmgate store, the operation's key production crops are carrots and potatoes.

An agronomist by trade, Richard started growing a small area of potatoes at the Boneo farm in 2007. Today, the farm's produce – including Hawkes' premium kipflers – are available at many gourmet restaurants on the Peninsula and in Melbourne.

The cost of land on Mornington Peninsula makes farming very large areas prohibitive and as such, Richard is conscious of maximising the return from every acre of his 80-acre property.

"It's all about continually monitoring the gross margin from each crop and each acre," Richard said.

"Some people try to save money on inputs, but if the yield or quality increase is such that it outweighs the cost of the input, then it's really a no-brainer."

## Soil focus

Richard recently agreed to trial EndoPrime®, a plant and soil enhancement product from Sumitomo Chemical. It contains mycorrhizae, which are beneficial fungi that can naturally exist in soils and colonise the root systems of plants. The product includes four high-performing endomycorrhizae species, which have been proven to increase crop productivity and overall plant and soil health.

"We farm a relatively small area and because of this, we do ask a lot from our soil," he said.

"It makes sense if we can put something back to improve our soil. Also, we trialled it on our kipfler potatoes, which are a relatively expensive crop and notoriously susceptible to diseases. We felt that if the EndoPrime did what we were told it would in terms of improving plant and soil health, then we were giving the crop a good advantage from the beginning."

Richard applied the product in-furrow in a tank mix with Amistar fungicide and admits that at first, he was somewhat sceptical.

"I was a little unsure, having never used a mycorrhizae product, but pretty much from halfway through the crop cycle we could notice a difference. The treated plants were visibly greener and healthier than the untreated, and they went on to give a good couple of weeks' more growth than the untreated plants."

While it is reassuring to see a healthier crop during the growing period, the next test was to see if there would be any yield difference at harvest.

Richard separated the treated and untreated plants into different bins in order to check the results.

"On the untreated potatoes, we were harvesting 20 tonnes per acre," he said.

"In the treated block, we were harvesting 22.44 tonnes to the acre, so an increase of over 10 per cent is very significant – especially in kipflers."

The other noticeable difference was in the number of small versus medium-to-large potatoes in the two blocks. The untreated area had a ratio of 33 per cent small and 67 per cent medium-to-large, whereas the treated area had only 20 per cent small and 80 per cent medium-to-large potatoes when sorted. Medium-to-large potatoes can attract a very significant price premium, which proves beneficial for growers.

Richard has treated his next planting with EndoPrime and says that he would highly recommend the product based on the results he has achieved.

"The more we can improve the health of our soil and the more potatoes that we can transition into that medium-to-large range, the better our returns are per acre. We will certainly include this as part of our program moving forward," he said.

Victorian grower Richard Hawkes shows the size difference between treated (left) versus untreated (right) kipfler potatoes.

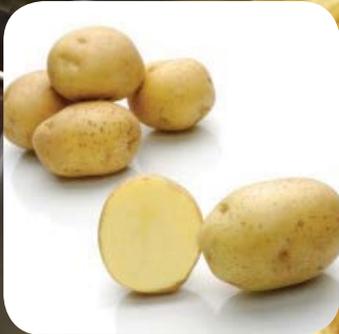


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UK soil scientist and worm specialist Dr Jacqueline Stroud.

## Exploring the secret life of worms

Earthworms can make marked differences to soils by dramatically altering soil structure, water movement, nutrient dynamics and plant growth, but not enough is known about them. Soil scientist and worm specialist Dr Jacqueline Stroud from Rothamsted Research in the United Kingdom has been undertaking detailed research to find out more about worm diversity and their populations. Heather Briggs reports.

Earlier this year, Rothamsted Research scientist Dr Jacqueline Stroud recruited 100 farmers who surveyed 1,300 hectares of land for worms under all sorts of agricultural regimes, including arable land, potatoes and pasture. Participants dug 10 soil pits per field, recording worm numbers and the diverse types of worms (see box-out for more information).

"While all the surveys showed that farmers found at least one earthworm per spadeful of soil, 15 per cent picked up exceptional levels of earthworm biodiversity," Dr Stroud said.

"There were a number of farmers who brought up as many as 28 worms per spadeful on average across the whole field."

After the spring survey, participants were invited to Rothamsted Research to give feedback on their findings and farming practices. Unsurprisingly, tillage was found to be the most important factor for diversity and numbers.

"We are aware that one of the major threats to earthworm communities is that they can be destroyed by tillage operations," Dr Stroud warned. This is because anecic and epigeic earthworms are harmed by tillage, but endogeic

worms survive – and sometimes benefit – from tillage.

"Nevertheless, our top 10 fields in the survey included some under-ploughed and minimum-tillage regimes, and we also found that not all intensively ploughed land (e.g. vegetable cropping) had no biodiversity."

Generally speaking, those who had regularly used cover cropping saw higher worm biodiversity than those who follow 'business-as-usual' regimes. However, not all the results followed these norms, pointing to the need to prioritise a study of small differences in soil management strategies that may impact worm populations.

### Digging deeper

By encouraging people to dig, the exercise also drew attention to other challenges such as soil structure and crop residues not being broken down, Dr Stroud said.

Worms are not always immediately visible, particularly during the summer months because they go into hibernation. Using the feedback from the pilot study, the inaugural National #30minworms Farmland Survey commenced on 15 September 2018 and continued to the end of October. It encouraged farmers to give up 30 minutes of their time to survey their fields and record earthworm populations, and help assess the effects of soil management practices (such as tillage and cover cropping) on soil health.

"These fascinating creatures are the underground engineers of our ecosystem whose multiple roles are too often poorly appreciated and threatened," Dr Stroud said.

"Feedback from the farmers showed a keen interest to compare multiple fields, so I looked at the statistics and results and was able to streamline the survey to five soil pits per field."

Dr Stroud's research on earthworms started in conventionally-managed agricultural soils, where she discovered that deep-burrowing earthworms and their associated middens were uncommon. After growing root crops such as potatoes or onions (which involves high-intensity soil cultivations) there were none of this type of earthworm as they were locally extinct, she reported.

Dr Stroud has assessed different types of minimum-tillage, discovering that deep-burrowing earthworm populations were typically around five worms per square metre. However, to benefit plants there needs to be more than 30 worms per square metre, so a dramatic rethink of soil management is necessary.

Her work has also revealed that although field margins have high densities, they do not act as a source of earthworms for repopulating the field quickly.

“This means the recovery of earthworm populations likely relies on the residual, surviving in-field worm populations,” Dr Stroud said.

To make matters even more difficult, repopulation in deep burrowing earthworms is very slow, so Dr Stroud has also been assessing the potential of remedial actions such as the addition of compost or farmyard manure.

“We found applications of farmyard manure under minimum-tillage resulted in a 40 per cent increase in these earthworms over compost,” she says.

However, effects are likely to depend on soil type and structure.

#### Find out more R&D

Please visit [wormscience.org](http://wormscience.org) for more information about this project and the National #30minworms Farmland Survey.

## Know your worms

The United Kingdom has 29 species of worms divided into three main groups:

- Surface feeders (epigeic species).
- Topsoil dwellers (endogeic species).
- Deep burrowing worms (anecic species – although they also feed on the surface).



Deep burrowing worm.

Images courtesy of Dr Jacqueline Stroud, Rothamstead Research.

**Surface feeders** are small but play a crucial role in recycling nutrients, and are also an excellent source of prey for declining bird species such as the song thrush. These are well-adapted to variations in moisture and temperature at the soil surface and stimulate microbial activity.

**Topsoil dwellers** move and live in the upper soil strata and feed primarily on soil and associated organic matter, breaking it down. They do not have permanent burrows, and their temporary channels become filled with cast material as they move through the soil.

**Deep burrowing worms** improve soil structure. They make permanent vertical burrows, so roots can penetrate more deeply to scavenge efficiently for water and nutrients. They improve porosity and therefore infiltration. Additionally, the burrows minimise surface water erosion while increasing the water-holding capacity of the soil.

## Online platform customises plant nutrition

Specialty fertiliser supplier Haifa has launched a new online system to help growers, agronomists and advisers design customised fertilisation programs.

The Haifa NutriNet platform integrates data regarding a crop, soil type, water analysis, irrigation system setup and other grower preferences. Together with plant nutrition databases covering 80 common crops, the data is then compiled to generate a precise fertilisation program that meets the specific need of the crop under actual growth conditions.

The new Haifa NutriNet online system for growers, agronomists and advisers generates precise fertilisation programs that meet the specific needs of crops under actual growth conditions.

The platform also incorporates data characterising climatic conditions at a variety of meteorological stations.

The software directs growers' workflow, supports decision-making and simplifies calculations. The majority of the process can be completed before each season, providing growers with a detailed work plan for the season ahead. The fertilisation programs can also be retrieved at any time for adjustments and to create “task reminders”.

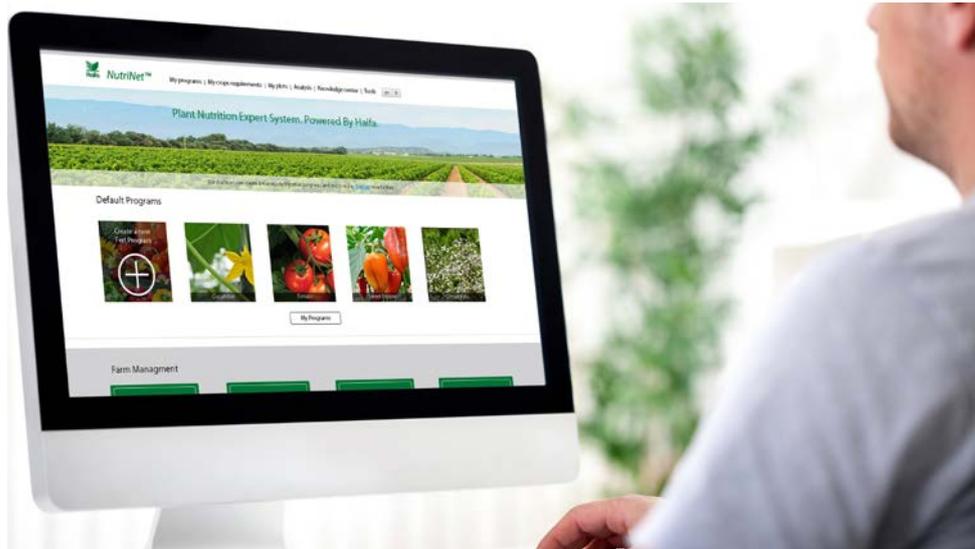
“We developed NutriNet to address practical considerations growers have in their daily operations,” Haifa Vice President of Marketing, Business Development and Innovation Natan Feldman said.

“We are proud to provide the world's growers with such a tool that can take them to the next level of plant nutrition. With this, they will be able to get the most from their crops and reap the benefits of their hard work.”

Haifa Australia Managing Director Trevor Dennis said the software would play a vital role in the decision-making between the fertiliser requirement and water application for growers.

He added that it would improve operational and fertiliser use efficiencies, with the ability for growers to make quick adjustments to application rates as water applications change. Data could also be stored for later use.

Haifa NutriNet is ideally suited to laptop and desktop computers. It supports all common measuring unit systems and features a multilingual interface.



#### Find out more

Please visit [nutrinet.haifa-group.com](http://nutrinet.haifa-group.com).



## Renee Pye

Age: 24

**Location:** Virginia and Parilla, South Australia

**Works:** Zerella Fresh

**Grows:** Potatoes, carrots and onions

### How did you first become involved in the potato industry?

My family started growing potatoes in New Zealand in the mid-1950s, and then my father Mark Pye moved to Parilla in South Australia when an opportunity was presented in 1990. I was raised on the family farm sitting on the tractor with Dad, working on the back of the digger, driving chaser bins as well as touring around the Mallee with Mum (Fiona Pye) selling potato chips. These were the first pillars to becoming involved in the potato industry and the family farm before going to boarding school and then university. Every break, I would come back and work on the farm.

### What does your role as Marketing and Media Manager at Zerella Fresh involve, and what are your responsibilities?

A major part of my role is developing an effective marketing plan/strategy for our hero product Spud Lite and acting on this plan. This involves analysing the current market; booking the appropriate mixed media; creating engaging content; managing all social media accounts; working on product development; and analysing past and current sales data. Another part of my role is product development for branching Zerella brands. This initially involves working with our agronomist and Dad, looking at our new varieties. We also look at what unique selling points these varieties have to help fulfil customer needs that have been identified through market research.

### What do you enjoy most about working in the potato industry and how do you maintain your enthusiasm?

I really enjoy getting positive feedback from consumers about our products. The feedback is incredibly rewarding to hear when you see the full paddock to plate lifecycle of the product and the amount of passion in the process. I also enjoy overcoming the challenges that arise and looking back at how much the potato industry has evolved utilising innovative technology, development of new varieties and new controls on pests and diseases. As I get older, I have found that my enthusiasm and drive only grows.

### What are the biggest challenges you face working in the industry, and how do you overcome them?

Our low carbohydrate potato Spud Lite has built an incredible consumer base that continues to grow. A challenge behind this is having a constant, premium supply of this product for 365 days of the year. Often there are extreme weather events which can place stress on meeting the built-up demand. There are numerous ways we have tried to overcome this challenge which includes growing in different regions (potentially frost-free), and recognising water management and supply to ensure right aged seed and spread of production. Another major challenge is attracting the right people to live and work in the Mallee region. It is an ongoing trend that regional populations are on decline with less people wanting to live in a small, remote country town. We need people to help execute strategies, plans and processors to make the business successful.



Photography by Glenn Power.

**How do you raise public awareness of Zerella Fresh potato varieties? What channels do you use?**

At the moment, we have two products that we market with unique selling points as our own. One is Spud Lite and the second product is called Daisy Chippers, which are excellent for baking, frying and roasting. Both products have undergone sensory and nutritional information panel testing to validate these unique selling points. To raise awareness, we apply a mix of media channels to communicate effectively to our ideal target markets.

**What new innovations, research and/or practices has your business implemented recently? What are you doing differently to other growing operations?**

At Zerella Fresh, we are always looking for ways to make our business run more efficiently and sustainably through new technology and modern practices. One of our most successful innovations is Spud Lite. The varieties used for this product have a unique selling point: a shorter growing time of 100 days, which results in less water use and inputs and is a very versatile variety when used in the kitchen. In the supermarkets Spud Lite is sold in a 1.5kg bag and a 750gm baby bag – these pack sizes were established through research outcomes. We are now currently working on a 350gm microwave bag to meet the growing demand for convenience.

We have also introduced a green guard to the packaging to decrease the light exposure to the potatoes, resulting in a reduced amount of waste in-store. Touching on sustainability, we have been utilising variable rate irrigation to minimise our water use. Additionally we have installed around 4,000 solar panels across the farm and packhouse. Regarding technology, we have implemented e-mapping, an electronic managing system called Information Leader and the use of drones with infrared and thermal cameras.

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

I really do believe there is an opportunity for growth on a consumption level if the consumer is educated through a clever marketing campaign on how nutritious and delicious potatoes are, as well as debunking that tired unhealthy myth.

As demonstrated overseas and through Australian market research, there is a growing demand for convenient pack sizes, ready-to-go meals and value-added products. I think efforts towards these few things will assist with growth in the industry. Also, new varieties that offer a wealth of characteristics, including great eating experience, will provide opportunities.

**Where do you see yourself in five years?**

I hope that in five years we will be capturing more data on the farm and through the supermarkets. Furthermore, our business will still be striving for sustainability through new technologies that provide insight into efficient resources use, showing our past mistakes so we can continue to improve and remain competitive. Additionally, value-added products and educating Australians about the nutrition in potatoes envisions an exciting future. Personally, I hope to continue to grow my family and move to the farm, so my children can have an incredible upbringing like me whilst working in the family business.

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

I believe that the farming and potato industry is more than just managing and utilising the land. There are jobs for people who are interested in many different areas including marketing, human resources, accounting, IT, agronomy etc. It is an industry that brings a diverse range of opportunities. There also needs to be more education at primary and high school level – children's passion and interest in farming could grow if they are educated from a young age about where their food comes from.



Academic and extension agronomist Andy Robinson from the United States met with Snack Brands Australia, Simplot and potato processing growers on a recent visit to Australia.

## 'Spudologist' returns to Australia to share knowledge

Andy Robinson is an academic and extension agronomist from the United States, who conducts research along with his colleges at North Dakota State University and the University of Minnesota. After presenting at the AuSPICA conference in 2018, he returned to Australia earlier this year and met with Snack Brands Australia, Simplot and potato processing growers on-farm to share his knowledge. In this edition, Andy introduces himself to *Potatoes Australia* readers.

G'day, I'm Andy Robinson and my favourite food is potatoes. For a decade, I have been helping to improve potato production to feed the world their favorite vegetable. My focus is to improve sustainable potato production through scientifically-based solutions to address real world problems expressed by agricultural professionals, and to disseminate scientific information through easy-to-understand trainings, bulletins and technology.

Having been raised on a farm in Idaho, I understand the importance of good information to improve a farm's economic stability. Because of my desire to improve agriculture, through my formal education I studied agronomy and weed science, obtaining a PhD in Weed Science from Purdue University in Indiana.

After being in school for 23 years, it was time to put that knowledge to good use. Since 2012, I have been the Extension Potato Agronomist for North Dakota State University and the University of Minnesota. This joint appointment allows me to work with potato growers who grow seed potatoes, fresh potatoes and potatoes for crisps and chips in two states.

My role as an extension educator is to provide timely information that is scientifically sound and unbiased, which will aid growers in sustainable crop production.

I make technology a part of my extension programming and educational tools. Multiple platforms of technology are used in conjunction with traditional extension methods such as on-farm visits,

publications in trade magazines, extension articles and education at various meetings. I believe that both technology and traditional methods are important in order to make it easy for my clientele to find the accurate and unbiased information they need at a moment's notice. Through multiple platforms I am able to reach a large number of people effectively.

### Sharing information

Some of the programs I have developed, or use, are the North Dakota State University Potato Extension webpage ([z.umn.edu/spud](http://z.umn.edu/spud)) and the North Dakota Agriculture Weather Network Potato Blight app ([z.umn.edu/potatoapp](http://z.umn.edu/potatoapp)). On the Potato Extension webpage there is a wealth of information, including posts on current topics, certified seed, pest identification, and links to many extension articles on various topics I have authored or co-authored.

Another aspect of my position is that I provide organisational leadership and moderate field days and winter meetings. These meetings are highly attended by the potato growers and industry members because important research and education is provided to help them manage potatoes more successfully. One of these meetings is the Potato Scout School where we teach pest identification and management and other basic potato principles. Additionally, I have given over 200 talks at meetings with potato growers, scientists, industry and regulatory agencies, many of

which have been international invitations.

My research work is intended to provide unbiased information that can be implemented in large-scale production within a short time after the research is complete. It has been focused on herbicide use and misuse, plant nutrition and physiology, and I have published 18 articles in research journals or book chapters. The research projects that interest me the most address specific challenges farmers are facing. I determine the problem through my communications with farmers, develop research projects and then distribute this information to the potato community to help them make the proper changes.

My recent visits to Australia – a week in winter and a week in summer – have taught me that there are opportunities for education to potato growers. There are many younger and not-so-younger growers who are looking for more knowledge in potatoes. As I have had many opportunities to work with potato growers across the world, I've learned that growers all face similar challenges: because if growing was easy, anyone could do it.

#### Find out more

Please contact Andy Robinson at [andrew.p.robinson@ndsu.edu](mailto:andrew.p.robinson@ndsu.edu). Readers can also visit Andy's Facebook page: [facebook.com/potatoextension](https://www.facebook.com/potatoextension) or follow him on Twitter and Instagram: [@spudology](https://www.instagram.com/spudology).

For more information or to provide your feedback to the Potato Processing Association of Australia, please contact Anne Ramsay on 0400 368 448 or [ppaa.eo@gmail.com](mailto:ppaa.eo@gmail.com).

## Crop establishment basics for success

Maintaining seed quality and adequate storage and handling practices, as well as applying seed treatments prior to storage or planting, are imperative for potato growers when preparing for the next growing season. Syngenta Senior Technical Services Lead Scott Mathew explains the steps to achieving a top-quality potato crop.

With a major potato planting season just around the corner, it's worth taking some time to consider what's really important when setting up your season for high yields and top quality. Industry best practice applied during the crop establishment phase will have a huge impact on the final results at harvest. Get these three factors right and you are off to a good start.

### 1. Seed quality

The foundation for good crops is laid early, even before the crop is planted. High quality seed is the first step in maximising yield and quality. Given that you are reading this now, I hope you managed to visit your seed grower over summer to inspect the seed crop. If not, you should inspect the seed lot prior to purchasing. It's important to know what you are dealing with – you really should reject the seed if it is not up to standard.

Only source seed from a certified seed grower or from a reputable grower that has demonstrated a history you know you can trust. Planting poor quality seed is a recipe for disaster.

### 2. Storage and handling

After the seed potatoes are produced, the next step will be to handle that seed carefully and store it correctly.

Overall cleanliness and sanitary conditions are key elements of best practice storage. Badly maintained, dusty sheds are places where diseases such as silver scurf, caused by the fungus *Helminthosporium solani*, thrive – ready to infect this year's seed. Poorly ventilated sheds with fluctuating temperatures lead to undesirable physiological seed ageing. Ideal conditions for storing potatoes mimic conditions underground: dark, temperatures between 5-15 degrees Celsius, along with adequate air circulation and humidity.

Seed handling is just as important. Poorly-maintained, dirty equipment with exposed steel and high drop points can bruise or damage the tubers, leaving them open to infection from pathogens like *Fusarium* spp. and bacteria. These cause

seed piece decay. Sometimes, old potato residue from previous grading can be found on the floor or jammed up under belts or between rollers. Again, these are potential sources for disease transfer.

### 3. Seed treatment

Inadequate seed protection from disease is still responsible for some of the largest crop losses and failures. Applying a fungicide seed treatment prior to storage or planting is a sound investment. What product is the most appropriate will depend on what disease(s) you know are in the soil.

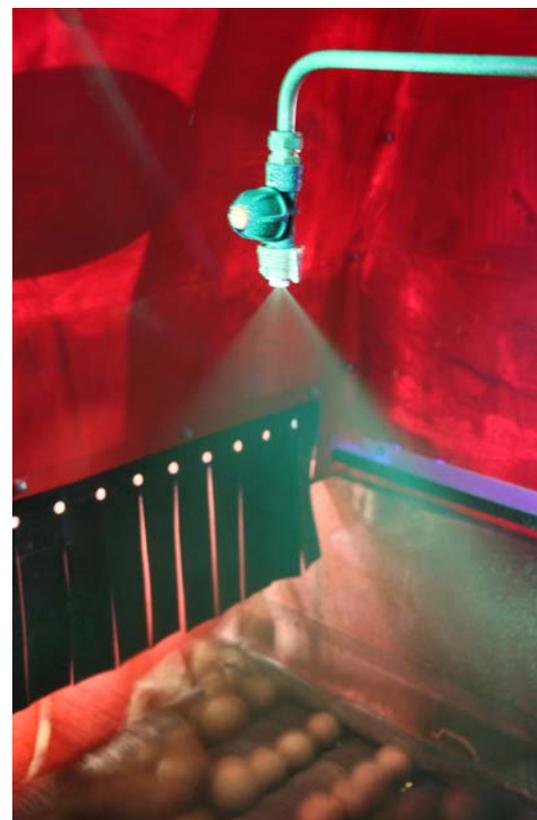
If the paddock is new to you, its rotational history and location will be your best guide and if unsure, you should seek expert advice.

In disease-risk areas, you may need to consider seed treatment prior to storage or planting and possibly follow-up with an in-furrow fungicide application. This is definitely the case when black scurf (*Rhizoctonia solani*) or pink rot (*Phytophthora erythroseptica*) are an issue.

VIBRANCE® PREMIUM is a seed treatment that offers excellent control of black scurf (*Rhizoctonia solani*) and silver scurf (*Helminthosporium solani*), while also providing suppression of seedborne common scab (*Streptomyces* spp.). It's also registered to control seedborne black dot (*Colletotrichum coccodes*) and Fusarium dry rot (*Fusarium* spp.). I mention this treatment because it is the only registered option that covers the major soilborne and seedborne diseases.

VIBRANCE® PREMIUM can also be applied prior to storage of seed potatoes, offering protection from Fusarium in storage. This registration gives you greater treatment flexibility.

For crops grown in pink rot areas, RIDOMIL GOLD® 480 SL applied in-furrow offers further protection, which is especially important in wet conditions. If black scurf or silver scurf look like they are going to be ongoing issues, an in-furrow application of AMISTAR® 250 SC would offer longer lasting protection.



Using food-grade UV dye to assess the effectiveness of applicator coverage with a Syngenta VIBRANCE® Premium applicator.

#### Find out more R&D

For more information or to ask a question, please contact your local Syngenta Territory Manager, the Syngenta Advice Line on 1800 067 108, visit [syngenta.com.au](http://syngenta.com.au) or email *Potatoes Australia*: [info@ausveg.com.au](mailto: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.



Road check points on the Western Australian border are a first line of defence against unwanted pests, weeds and diseases. Image courtesy of DPIRD.

## State biosecurity update: Western Australia

In this edition of *The Front Line*, Madeleine Quirk speaks to the Western Australian Department of Primary Industries and Regional Development about its approach to incursion response and biosecurity preparedness.

Biosecurity is fundamental to safeguarding Western Australia's valuable agricultural resources, the economy, environment and communities against the threat and impacts of plant and animal pests, weeds and diseases.

The Western Australian Department of Primary Industries and Regional Development (DPIRD) Sustainability and Biosecurity Executive Director Katherine Clift said without biosecurity systems in Western Australia, pests and diseases such as Queensland fruit fly, *Xylella* and citrus greening would affect the productivity, profitability and export of viticulture and horticultural products. Invasive species such as red imported fire ants could also have significant impacts on horticulture in the state, as they destroy irrigation systems, machinery and endanger people working in the fields.

Diseases such as karnal bunt and foot and mouth disease could devastate the grains and livestock industries, along with the livelihood of farmers, and the Western Australian landscapes would be taken over by weeds such as pokeweed, which is poisonous to both livestock and people.

"Western Australia is uniquely free from a large number of pests, diseases and weeds that are present in many other parts of the world, not only due to our

geographic isolation, but also due to our robust biosecurity systems," Dr Clift said.

"Over the past four years, the Department has been able to strengthen Western Australia's biosecurity defences through a range of activities under the \$20 million *Boosting Biosecurity Defences* project, which is funded by the State Government's Royalties for Regions program, as part of the Seizing the Opportunity in Agriculture initiative.

"The project has significantly improved the Department's capacity to manage risks through rigorous trade regulations and import requirements, incursion response mechanisms, preparedness activities, and building the capacity of communities to become involved in pest management."

### Rigorous trade regulations

As trade and travel continue to increase, more and more challenges are placed on quarantine services in Australia.

In Western Australia, DPIRD operates the Quarantine WA service. Border checkpoints are the first line of defence against incursions of unwanted pests, weeds and diseases coming from other Australian states, and these checkpoints are located at road, air, rail, sea and mail entry points.

"We enforce strict biosecurity legislation on items being imported into the state, ensuring that risk material is inspected, released, treated, re-exported or destroyed," Dr Clift said.

"Inspections and certification services are carried out at our Canning Vale Markets and other metropolitan sites."

In some cases, the movement of goods may be restricted to and from certain areas inside Western Australia. For example, the movement of stonefruit and citrus into the Ord River Irrigation Area is prohibited between 1 April and 30 November each year.

### Responding to biosecurity threats

DPIRD is committed to the development and ongoing improvement of emergency management arrangements.

"In the event of a large-scale emergency, our response staff depart from the normal organisational structure and adopt a response structure based on the Australasian Inter-Service Incident Management System (AISIMS), as detailed in our Incident Management System Manual," Dr Clift said.

"The need to increase our capabilities in this area is becoming ever-increasingly important, with increased trade and travel

resulting in increased numbers of exotic incursions. In the past two years, the Department has responded to a number of Queensland fruit fly incursions, as well as cucumber green mottle mosaic virus, *Dickeya dianthicola*, tomato-potato psyllid, brown marmorated stink bug, and citrus canker."

One of the 11 sub-projects under the *Boosting Biosecurity Defences* project has a core focus on building emergency response capacity within DPIRD. As a result, DPIRD has been able to improve its response capabilities through projects such as emergency management training for staff; simulated response exercises; system improvement to enhance resource management (WebEOC) and case management (MAX); incident recovery activities; skills enhancement programs for dealing with incursions; industry liaison training; and Laboratory Information Management Systems (LIMS).

Dr Clift said that through this work, DPIRD, industry and community are more prepared to respond to an event and recover from its impact.

## Preparedness is key

While DPIRD is dedicated to improving emergency management arrangements, preparedness still remains a top priority. Preparedness involves initiating activities that help identify key biosecurity threats, and developing preventative and response strategies.

"The Department has adopted a biosecurity continuum approach with pre-border, border and post-border biosecurity strategies working together to minimise biosecurity risks," Dr Clift explained.

"We deliver a number of preparedness programs in areas such as surveillance and diagnostics, risk assessment, imports and exports, and legislation. These programs ensure that Western Australia is as prepared as possible for biosecurity incursions."

Examples of plant biosecurity preparedness programs include:

- **Early warning surveillance:** DPIRD has a number of proactive surveillance programs to ensure early warning of any new incursions of pests and diseases not found in Western Australia. These include activities as part of the National Bee Pest Surveillance Program (involving 'sentinel' hives placed at strategic locations in Western Australia); a Queensland fruit fly trapping grid across the entire metropolitan area (about 1,900 traps); a European wasp surveillance program; and a seasonal trapping and surveillance program in the south-east of the state for starlings.
- **MyPestGuide™:** A suite of tools, including a Reporter app, three pest identification field guides, a decision tool and a community website that allows the public to report any pest or disease signs instantly to DPIRD and receive a response within 48 hours.

- **Biosecurity Blitz:** A Western Australian event that runs annually, Biosecurity Blitz is an opportunity for the community to help identify as many pests (plant and animal) as possible over the period of one month and report them through the MyPestGuide™ Reporter. This helps to inform and support Western Australia's pest-free status. In 2018, the Biosecurity Blitz was held between 19 October and 16 November and received 1,671 reports.
- **Diagnostic Laboratory Service (DLS):** A service for early diagnosis of endemic and notifiable diseases and specific disease testing for seed crops to meet export requirements.
- **Pest risk analysis (PRA):** Assessments to determine potential quarantine risks, to develop pre-border and border measures to minimise the risk of entry of pests and diseases to Western Australia.

### Find out more

Visit [dpiird.wa.gov.au](http://dpiird.wa.gov.au) for more information on pest management strategies.

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 Biosecurity Officer Madeleine Quirk on 03 9882 0277 or [madeleine.quirk@ausveg.com.au](mailto:madeleine.quirk@ausveg.com.au). The Farm Biosecurity Program is funded by the Plant Health Levy.

## Working together to reach a common goal

Biosecurity officers working for DPIRD undertake preparedness, regulatory and incursion response activities to support the state's agricultural industry. Major business-as-usual activities include rolling out surveillance programs, diagnostic services, seed testing and certification, animal and plant risk assessments, inspection services, research and education in best practice management.

The *Western Australia Biosecurity Strategy (2016-2025)*, which outlines management processes for emerging and ongoing biosecurity issues across the state, has an overarching vision for industry and community to also become involved in pest and disease management, to work with government to minimise biosecurity risks.

"A proactive biosecurity system based on shared responsibilities relies on active participation from all people," Dr Clift said.

"The Department's focus is on preventing and responding to new incursions of declared pests and diseases, with industry and communities being responsible for the management of widespread and established declared pests. To this end, the Department provides all stakeholders with the support they need to become involved in the state's biosecurity systems."

## Recognised biosecurity groups contribute to the Department's vision

Recognised Biosecurity Groups (RBGs) are not-for-profit organisations managed by volunteers and regional representatives to take control of widespread and established declared pests that affect their communities the most.

They are formally recognised under the *Biosecurity and Agriculture Management Act 2007* and complement the efforts of landholders, who all have an obligation under the Act to control declared pests on their land.

"RBGs involve everyone in decision-making about activities and expenditure, which encourages communities to take ownership of pest management," Dr Clift said.

"RBGs can be established for the benefit of any agriculture industry, including horticulture. Each RBG has its own priority pest list and strategy for management activities."

Dr Clift explained that RBG activities are funded by declared pest rates collected from landholders in their areas. DPIRD supports RBGs by matching funds dollar-for-dollar and providing advice and guidance in areas such as engagement, operational planning, administration and governance.

For more information on RBGs in Western Australia, visit [agric.wa.gov.au/rbg](http://agric.wa.gov.au/rbg)



## Woolworths announces new labour hire requirements

Fresh produce suppliers will need to comply with Woolworths' updated responsible sourcing standards by 27 September 2019. Growcom's Fair Farms Initiative team explains what this update means for growers and the wider supply chain.

Woolworths recently announced an update to its responsible sourcing policy, with new requirements for horticulture suppliers using labour hire providers. Among other things, the updated policy asks that suppliers:

1. Enter into formal (written) contracts with their labour hire providers.
2. Ensure overseas workers sourced by the labour hire providers have the legal right to work in Australia (e.g. through the Visa Entitlement Verification Online system; VEVO).
3. Ensure fees paid to a labour provider allow the provider to pay minimum wages and entitlements to workers.
4. Only use labour hire providers who have a license (in Queensland), are StaffSure certified, or are Seasonal Worker Programme-approved employers.

Woolworths requires that its new standards are met by all its fresh food suppliers, including all downstream members of the supply chain, by 27 September 2019.

"Growcom welcomes this policy update overall as a step in the right direction and agrees with the substance of most of the new requirements, which match the Fair Farms Standard," Fair Farms Program Manager Thomas Hertel said.

"At the same time, however, we have raised our concerns with Woolworths regarding the implementation date of 27 September, which we believe will not work in regions where eligible hired labour is in short supply.

"We also view that some of the requirements need further work on the detail, to avoid an overreach in responsibility placed on the grower (host).

"We'd like to see a collaborative and harmonised approach towards improving workplace compliance levels in the sector."

### Setting standards

Mr Hertel added that Growcom hoped to achieve an outcome where retailers adopt consistent policies to reduce the risk of the horticulture industry being governed by different sets of ethical sourcing standards.

"Incoherent standards tend to create confusion and frustration among growers and will drive up compliance costs. Aligned and clear rules, on the other hand, are likely to result in more growers achieving compliance, which is beneficial to both the industry and its workforce," he said.

"The Fair Farms Program, with the Fair Farms Standard at its core, aims to provide industry with the one standard for responsible employment practices in horticulture.

"It's a common standard that is developed by the industry, which gives growers and suppliers the confidence that they need to comply with existing laws relating to employment and do the right thing by their workers in a complex regulatory environment, whether workers are directly employed or engaged through a labour hire provider."

The Fair Farms Program will begin operations by mid-2019, following the completion of the proof of concept (pilot) phase currently underway. Fair Farms is going through consultations with growers, industry peak bodies and the retailers with the aim of finding the required endorsement of Fair Farms as the industry standard.

Growers and other members of the horticulture fresh produce supply chain can register their interest online to be kept informed about the Fair Farms pilot and will be contacted once the program starts: [growcom.com.au/fairfarmsinitiative](http://growcom.com.au/fairfarmsinitiative).

### AUSVEG comes on board as foundation supporter

Growcom is pleased to announce that AUSVEG has come on board as a foundation supporter of Fair Farms, providing seed capital towards the establishment costs. AUSVEG is the national peak industry body representing the interests of Australia's vegetable and potato growers.

AUSVEG has been very supportive of Fair Farms since Growcom embarked on implementing this industry-led initiative. This arrangement to provide financial support is a strong signal that the horticulture industry is standing firmly behind Fair Farms. Growcom is excited about the tangible commitment from one of its key partners in the industry and looks forward to the collaboration.

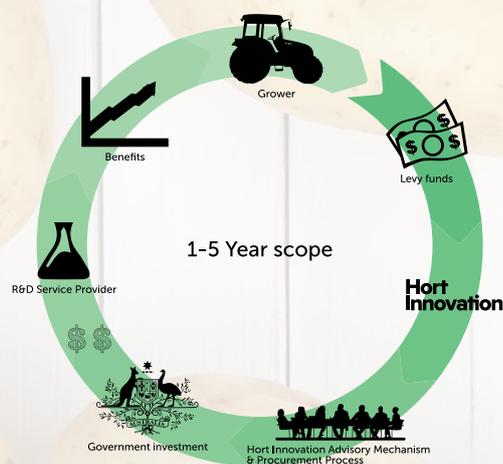
#### Find out more R&D

Visit [fairwork.gov.au](http://fairwork.gov.au) and [growcom.com.au](http://growcom.com.au) for more information regarding your obligations as an employer.

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

# THE FRESH POTATO R&D LEVY AT WORK

## STRATEGIC LEVY INVESTMENT



## WHO PAYS THE FRESH POTATO R&D LEVY?

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

The total levy charge is set at 60 cents per tonne for fresh potatoes and 50 cents per tonne for 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, the research and development levy funds are managed by Hort Innovation.

## HOW IS LEVY MONEY INVESTED?

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

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

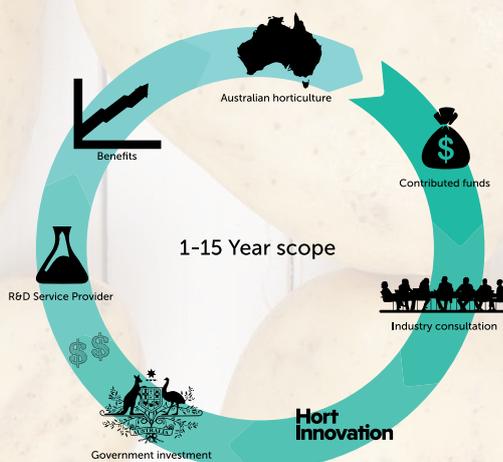
Strategic levy investments have a one- to five-year scope and the R&D is designed to directly benefit growers in the potato industry. Project topics range from pest and disease management to biosecurity matters, with findings communicated through a variety of channels, including *Potatoes Australia*.

You can find information on all current strategic levy investments, and details of the SIAP, on Hort Innovation's Potato – Fresh Fund page at [horticulture.com.au/growers/potato-fresh-fund/](http://horticulture.com.au/growers/potato-fresh-fund/).

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

You can read more about Hort Frontiers and the seven funds within it at [hortfrontiers.com.au](http://hortfrontiers.com.au).

## HORT FRONTIERS



## HOW CAN GROWERS GET INVOLVED?

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

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

**Hort Innovation**  
Strategic levy investment

**POTATO – FRESH FUND**

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



Tomato spotted wilt virus symptoms.

## Tomato spotted wilt virus: A very sporadic, but destructive potato disease

From 2001-04, a project was undertaken to determine the drivers behind the epidemics of tomato spotted wilt virus that had recently occurred in potato crops in southern Australia, and to investigate varietal susceptibility. Project Lead Dr Calum Wilson spoke to *Potatoes Australia* about this research and its outcomes.

Tomato spotted wilt virus (TSWV) is an aggressive, sporadic disease that has over 1,000 plant host species including many vegetable and ornamental crops. While major epidemics in potato are rare, when they do occur – as was found during the late 1990s and early 2000s in parts of southern Australia’s potato production regions – significant losses will occur.

Early infection of potato plants by TSWV can greatly suppress plant growth and subsequent yields. Late infections may be difficult to detect, and the virus can move to tubers, affecting tuber quality in commercial crops and leading to rejection of certification for seed crops.

TSWV infection in tubers can lead to internal blackening and necrosis. Often the symptoms may not be obvious from the outside of the tuber, and symptoms of infected produce may be discovered by the purchaser. This was a significant issue in processed potato crops in the early 2000s where culling of symptomatic tubers at the factory resulted in major additional costs.

To understand what was driving these disease epidemics, Dr Calum Wilson and PhD student Charles Jericho from the University of Tasmania, along with Paul Frost and Calluna Denwood from

SAFRIES, undertook project PT00019 – *Management of tomato spotted wilt virus in potatoes*, a strategic levy investment under the Hort Innovation Fresh Potato and Potato Processing Funds.

### Project background

TSWV infections in Australian potato crops are not new, with historic epidemics noted in the 1940s and 1950s. Major outbreaks occurred again in the late 1990s, which coincided with the first detection of western flower thrips in Australia.

“There was concern that there was some link between the western flower thrips’ arrival and the subsequent increase in TSWV epidemics in potato. The western flower thrips is generally regarded as the most efficient vector of TSWV globally,” Dr Wilson said.

The project focused on varietal screening to discover if any effective resistance was available in commercial potato varieties, and studies to determine what thrips’ vectors were associated with potato epidemics and where possible sources of the virus resided.

“It was trying to understand *why* we get these sporadic outbreaks,” Dr Wilson said.

A series of variety screening trials

were established, and the efficacy of insecticides for control was examined. Insect sticky traps were placed in commercial crops throughout southern Australia to identify thrips present where TSWV was found. Crops were regularly monitored to record the initial infection levels, which may have come from infected seed, and subsequent spread of the virus.

### Recorded results

The researchers discovered that onion thrips in Tasmania and both onion and tomato thrips in mainland sites were the only TSWV vectors associated with southern Australian potato crops. Western flower thrips were never found on any traps. Subsequent testing showed that onion and tomato thrips are as efficient at transmitting TSWV as western flower thrips.

“Within potato crops, there was no association between thrips numbers and TSWV infection levels. We had fields where there were large amounts of virus spread with relatively low thrips levels and conversely, we had high thrips levels and no virus spread,” Dr Wilson said.

Surveys of weeds and other possible

alternate plant hosts of TSWV around the crops revealed that inoculum sources varied depending on the location.

“In South Australia, around these large pivots that were getting infected, there was a scattering of various weed plants that had the virus, but the suspicion was that the major inoculum sources were coming from much further away; perhaps from an infected crop that was never identified,” Dr Wilson said.

“As the season progressed, when we headed towards mid-summer and other crops were being harvested or other sources were harvested or drying off, a mass flight of thrips would hone in on the only green thing left – which was an irrigated pivot of potatoes, and you’d get a massive infection all in one hit.”

In Tasmania it was a slightly different scenario, as Dr Wilson explained.

“We tended to get more localised infections from the edges of the crop moving in, which suggested that the local weeds and other plants immediately surrounding the crops were actually the source.

“Understanding the source was important for control, and that very much depended on where you were.”

Dr Wilson said that another result of this project was the raised awareness of TSWV as an issue for the potato industry, which prompted the virus to be considered for seed potato certification.

“For instance, in Western Australia they still routinely screen potato seed for TSWV and certify on that basis. This is trying to reduce the sources of virus within the potato seed.”

Variety testing showed that no potato variety was immune or highly resistant to infection. There were differences in the efficiency of movement of the virus to tubers of infected plants, and in expression of necrosis or blackening in infected tubers.

Preliminary testing of foliar and pre-plant insecticide treatments suggested they offer limited value for disease control.

## Advice for growers

As TSWV is a very unpredictable disease in potato production, growers are restricted in the ways to limit the impact of the virus. In periods of absence of the disease there is little for growers to be concerned about, apart from being vigilant in crop scouting. The foliar symptoms of TSWV infection can resemble and be mistaken for early blight infections.

If, however, a new epidemic season does arrive, there remain very few options for management. There are no potato varieties that show effective resistance to TSWV, although some appear to be less prone to tuber infection and blackening. Thrips may be relatively easy to kill; however, insecticide treatments are generally ineffective as virus spread can occur very rapidly by thrips migrating into the crop and crop treatments are generally too late. Pre-plant insecticides that might help to make the plants less attractive may also interfere with Integrated Pest Management strategies. Management of virus sources may be problematic as well, as evidence suggested these may be at some distance from the crop, beyond the control of the grower. If epidemics resurge, emphasis on trying to find the distant inoculum sources will be critical to predict the likelihood of disease.

It is important to note that infections in seed crops can result in virus transmission to tubers which lead to epidemics in subsequent crops, therefore planting of certified seed is always important for virus control.



### Find out more

For more information, please contact Dr Calum Wilson at [calum.wilson@utas.edu.au](mailto:calum.wilson@utas.edu.au).

The final report for this project is available on InfoVeg. Readers can search 'PT00019' on the InfoVeg database: [ausveg.com.au/infoveg/infoveg-database](http://ausveg.com.au/infoveg/infoveg-database).

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

Project Number: PT00019

**Hort  
Innovation**

Images courtesy of Gerald Holmes, Bugwood.org.

# Regional Updates



**Gordon Jones**  
Seed Potatoes Victoria  
President

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## Seed Potatoes Victoria

In most seed growing areas of Victoria this season, we have seen an outstanding spring and early summer for planting with consistent, regular rainfall without flooding. The combination of good subsoil moisture on planting followed by rain has seen the season progress well, with the crops looking great. However, over summer the good, steady rain stopped and we seem to have gone to the other extreme with prolonged dry spells and high temperatures. This has brought about the usual dry weather issues on quality in some cases, and pressure on water supplies. Not to mention the expense of getting the water on.

At the time of writing, harvesting had started in most districts. Commercial crops have been exceptionally slow to move, and it is hoped that seed orders don't become badly impacted.

Seed Potatoes Victoria helped to coordinate a study trip to New Zealand in February to learn more about tomato-potato psyllid and its management. The itinerary was full to overflowing from the moment we got off the plane in Christchurch to our return to the airport. It was wonderful to have so much cooperation and interaction with Plant & Food Research New Zealand and Potatoes

New Zealand, as well as the growers and industry members. The knowledge transfer and network connections made were invaluable.

The tour was exceptionally well coordinated by Liz Wharton from Sebright Adventures, with valuable input from AUSVEG Biosecurity Officer Callum Fletcher, who was able to make good advantage of his many connections in the New Zealand potato industry.

We are grateful to AUSVEG for the opportunity of having Callum involved. Liz had everything from chocolates as 'thank you' gifts for our hosts, farmers and industry persons, to book covers (umpteens pairs – a new set for everyone at every farm!) to a little bag with sanitiser, sunscreen, a plastic bag for our 'farm' clothes, a little notebook, pen, tissues, torch and our itinerary. Everything. Even a cheerful, if not geographically challenged, bus driver. Please read Liz's report in this edition of *Potatoes Australia* for all the details of the tour.

The next SPV meeting is scheduled for Tuesday 30 April to be held at Bungaree Community Centre and as usual we extend invitations to seed growers to be there for the meeting.



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## Crookwell Potato Association

Things have only gotten hotter and drier in New South Wales since the last 'Regional Update'. Irrigating potato crops has been full-on and continues with many storage dams almost empty. A break into autumn would be most welcome, for everyone.

However, crops have been very resilient to the hot and dry conditions – reports are coming through that yields are still expected to be on or slightly above average. Pest population is moderate and spraying to keep crops clean has been carried out on most plots.

Seed orders are active, and seed sold last year out of Crookwell had favourable reports. Return buyers is a great indication that the Crookwell certified seed growers are doing the job right. Once again, all tests carried out on soil and plants have come back negative which is very important for our clean quarantined area.

It has been a great experience for me to be able to deliver our Regional Update to *Potatoes Australia*. I get a lot of positive feedback from the column. However, Crookwell Potato Association will have a new President at the helm when this report goes to print. I have decided to retire from the position and let some younger blood keep driving our strong association further forward. However, I will continue to grow certified seed potatoes within the association.

I have been President for close to 14 years and enjoyed it thoroughly. I know the new President will too, and wish whoever it may be well. I also know they will enjoy doing the Regional Update. Fresh eyes are always the best.

Hopefully, rain is not far away and there is enough of it for everyone when it does come.



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## AUSVEG SA

AUSVEG SA has been working closely with the South Australian Government to implement a Designated Area Migration Agreement (DAMA) for growers in the state. The DAMA will potentially allow for South Australian growers to achieve greater access to skilled migrants to fill critical roles throughout our industry such as mechanical engineers, agronomists and farm managers.

Initially the DAMA was only going to be available in regional areas, however AUSVEG SA has successfully negotiated with government to ensure that growers in peri-urban areas, such as large vegetable packhouses in Virginia, are able to access the scheme when implemented. AUSVEG SA is thankful for the work of the Marshall government in getting this initiative over the line after years of work by industry, as well as local Migration Agent Mark Glabrook from Migration Solutions, who has been working on the issue with us for years.

In organisational news, AUSVEG SA has

a number of exciting new projects that we will be rolling out in the coming months. We will be cooperating with the Adelaide Hills and Mount Lofty Natural Resource Management Board to deliver some innovative advanced compost use and nutrient budgeting trials on the Northern Adelaide Plains. This will showcase how to effectively apply soil amendments and compost on commercial vegetable farms.

We are also leading a 'Clean your Farm' campaign with Biosecurity SA, which aims to promote good biosecurity practice with growers throughout the state and will engage with growers and resellers. Finally, we have our Lean Manufacturing Program which we are delivering with the Department of Primary Industries and Regions, South Australia (PIRSA) and will provide funded audits for growers who would like advice on how to make their packhouse and growing processes more efficient. Interested growers can contact the AUSVEG SA office for further information.



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## AUSVEG VIC

Recently, AUSVEG VIC attended workshops which focused on the management of nutgrass. This is a big issue for growers throughout Victoria, and it demands different management practices to minimise its damage to crops.

The University of New England has been working on a Hort Innovation project to manage nutgrass and other weeds by reducing the industry's dependence on herbicides and tillage, while Camilla Humphries from E.E. Muir & Sons has been undertaking trials on the best chemicals to eradicate the weed.

Don't forget to keep up-to-date with the new instalments on the AUSVEG VIC website. We recently launched the

Energy Efficiency Calculator, which enables growers to assess different areas in their business and how their energy consumption is being used.

The annual AUSVEG VIC Awards for Excellence will be held at Kooyong Tennis Club on Friday 3 May. This annual event has proven to be very successful in bringing together growers from across the state to celebrate the achievements of their peers. The evening creates a fantastic opportunity to connect with other growers from Victoria and industry partners who support our sector. For more information and tickets, please contact the AUSVEG VIC State Manager.



VGA trading as AUSVEG VIC

## Calendar

**12-14 June**  
**Europatat Congress 2019**  
Where: Oslo, Norway

The annual Europatat Congress will take place in Oslo, Norway in the impressive Holmenkollen Park, which is situated 350 metres above the city. Under the slogan, *The timeless potato: A dynamic and innovative food*, the Congress will focus on the potential for innovation within the sector.

Further information: [europatat.eu](http://europatat.eu)

**24-26 June**  
**Hort Connections 2019**  
Where: Melbourne Convention  
and Exhibition Centre

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

Further information: [hortconnections.com.au](http://hortconnections.com.au)

# Young Potato People

G'day again, I hope you've all been good.



It's been a very busy time again; as always, the farms that we work never shut down. We always have something that needs attending to. At the same time, every now and then we need to make our way off the farm in order to learn things that will help us on-farm.

I recently attended the tomato-potato psyllid (TPP) tour of New Zealand, to learn all about the industry's latest concerns. We made our way around the Canterbury area, south of Christchurch.

We visited Plant & Food Research New Zealand, New World Supermarket and a host of farms to discuss how they are handling the psyllid.

We attended a dinner with local farmers and industry members, and the local mayor. It was a great opportunity to have a chat with the locals about how they operate and what we could learn from each other.



After visiting a few more farms, we made our way down to Timaru to visit the Heartland potato chip factory. This is a grower-owned company that started after the closure of another factory they supplied to.

The trip was well worth it, and I feel like I learnt a lot.

Speaking of busy times, Thorpdale hosted the Potato Festival on 10 March, which saw thousands of people flock to the small town. On the day there was a huge variety of potato-based attractions, with potato picking races, bag stacking and sack races for the kids. People could also check out sheep dog trials and shearing demonstrations, along with a huge amount of market stalls and vehicle displays. And back again for the first time since the rebirth of the festival was the old favourite: the woodchop.

I didn't get much of a chance to look around the festival. Like all the locals, I was helping to run the day and I was commentating the shearing demonstrations. From what I got to see, it was a very good day and we had a huge amount of people watching the shearing demonstrations each time.

As there is no doubt the busy times will continue, we will keep working hard to put food on the table, and make sure other people have potatoes to eat!

Cheers,

Stu



@youngpotatopeps



facebook.com/groups/youngpotatopeople



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