

# potatoes

australia

December 2015/January 2016

**Luke Bartlett**

Young grower



**PVY update**  
Research  
breakthrough

**Reader survey**  
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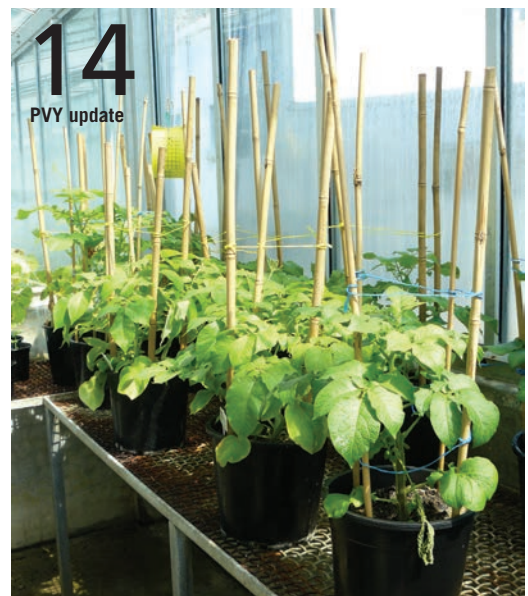
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Science For A Better Life

## AUSVEG Chairman and CEO messages



## Geoff Moar

AUSVEG Chairman

The New Year is just around the corner and is sure to bring exciting new R&D findings for potato growers. A recent study led by Department of Agriculture and Food, Western Australia researcher Dr Brenda Coutts has provided evidence to support the contention that Potato virus Y (PVY) can be spread via contact. These findings have major implications for growers, who, with this awareness, can take necessary precautions such as disinfecting tools, machinery, footwear and clothing when moving between crops to limit the spread of this disease.

Although Dr Coutts has warned that using disease-free seed is still the best way to avoid infection, this new evidence is an important addition to our knowledge of PVY. By disseminating the latest R&D results to growers, the industry is continuing to provide them with the tools needed to run healthy, successful farms.

The levy system responsible for funding the bulk of the industry's research is currently undergoing a transition to ensure it can continue to support the industry in new and better ways. Horticulture Innovation Australia Limited has become a grower-owned Research and Development Corporation, and will split R&D funding into two pools – one to invest in applied R&D that directly benefits growers and another to be invested in larger, longer-term strategic projects that will benefit multiple industries within horticulture.

The second pool of funds will make use of excess federal government funds, accessed with the help of co-investments from external sources. Potato grower levies will only be invested in Pool

2 funds if it is in accordance with grower wishes and will be of direct benefit to the potato industry.

These changes represent an exciting period for the industry, in which new opportunities pave the way towards long-term success. Growers will be an integral part of the updated system and will be called upon to provide feedback and ideas, as well as advice on the allocation of funds from both pools.

With all of these transitions occurring, now is an ideal time for growers to assess the need for change in their own businesses. Constant analysis of procedures and practices is the surest way to guarantee success, and the New Year provides a perfect time to do this. I encourage all readers to review the R&D findings available and to look at ways to incorporate the recommendations into their own businesses.

I wish all of you the best of luck in 2016.

Geoff Moar  
Chairman  
AUSVEG



## Richard Mulcahy

AUSVEG Chief Executive Officer

Adaptability is necessary in the potato industry, as the environment is constantly changing and presenting new challenges. An exciting change that marks a new era for Victorian potato growers is the launch of new representative body AUSVEG VIC. Building upon the great work done by the Vegetable Growers Association of Victoria (VGA), AUSVEG VIC will enhance the level of representation available to growers, supporting them and providing a strong voice in the agri-political arena.

Potato growers were previously not able to be included in the VGA, however with the creation of the new body, the timing was right to widen the vegetable community and allow the state's potato industry to benefit from a greater level of support. This is critical for the continued growth and success of the potato industry, and I hope to see growers embracing the new opportunities available to them.

I encourage potato growers to become members of this new body and to take advantage of everything AUSVEG VIC has to offer. To provide the best possible representation, AUSVEG VIC is keen to hear about any issues affecting Victorian growers, and will consult with them regularly to determine priorities for projects.

On a national level, one of the most significant changes to occur recently was the appointment of Assistant Minister for Agriculture and Water Resources, Senator the Hon. Anne Ruston, as the dedicated Minister for Horticulture. This is the first time the horticulture sector has been appointed its own dedicated minister, and I welcome Senator Ruston to the industry.

Based in South Australia's Riverland region, Senator Ruston was a grower and irrigator before she moved into politics, and as such brings extensive knowledge and experience to the role. AUSVEG looks forward to working with the new minister to propel the horticulture industry into the future and broaden the possibilities for growers.

Finally, I would like to congratulate seed grower Dean Bone on his election as President of Seed Potatoes Victoria (SPV). As the representative body for approximately 70 certified seed producers in Victoria and South Australia, SPV plays an integral part in ensuring the health and productivity of the seed industry, which in turn benefits the Australian potato industry as a whole. I wish Dean the best of luck in his new role and encourage seed growers to actively engage with SPV in dealing with any issues that may arise.

Richard J Mulcahy  
Chief Executive Officer  
AUSVEG

**AUSVEG Chairman**

Geoff Moar

**AUSVEG CEO**

Richard J Mulcahy

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

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**FRONT COVER:**

Luke Bartlett

Photograph by Nathan Frazer Photography



**18**  
Paul and Leanne Campbell

The New Year is upon us and to celebrate we have prepared a huge amount of interesting content in *Potatoes Australia* magazine!

This issue, we take a closer look at some of the most important bodies and systems in the Australian potato industry. The National Potato Levies are currently undergoing some changes, with designated funding for both commodity-specific projects and broader, longer-term projects that benefit the horticulture industry as a whole (page 12). Changes have also been recommended by the recent Seed Potato Certification Review that aim to improve the transparency and integrity of the seed certification system (page 16).

On the topic of seed, Dean Bone, the recently elected President of Seed Potatoes Victoria, has much to say. We chat to Dean about his passion for seed growing and his plans for the future of the industry on page 10.

From seed to fresh potatoes, our Grower profile this issue introduces Paul and Leanne Campbell from Sassafras in northern Tasmania (page 18). The pair talk about embracing new technologies and how they have moved their business forward simply by being open-minded.

In New South Wales, Young grower Luke Bartlett shares his love of growing good quality potatoes for his customers,

along with the challenges and opportunities that he faces in the industry (page 28). Luke is also a member of the Young Potato People group sponsored by Adama (page 34).

The latest R&D from Australia and the rest of the world features strongly in this issue, touching on everything from new research that validates the spread of Potato virus Y by contact (page 14) to wastage of potatoes in Switzerland (page 22).

A report on Bayer CropScience's new solution to prevent resistance in *Rhizoctonia* management also appears on page 23.

At this hot, dry time of year, research that looks at the effects of high temperature on tuber yield and physiological defects could not be more relevant. On page 27, a study from Poland investigates the effects of both high temperatures and drought conditions on potato plants at varying stages of growth, providing useful information for potato growers all over the country.

Another weather-related issue is that of Late blight. Due to the possibility that the weather conditions in some parts of the country this season might be conducive to the spread of this destructive fungus, we have provided an update on what strains are present in Australia (page 24).

The Front Line biosecurity column this issue focuses on why biosecurity is the duty of everyone. AUSVEG National Manager – Scientific Affairs Dr Jessica Lye examines the General Biosecurity Duty that appears in the new Queensland Biosecurity Bill and explains the potential ramifications of neglecting the duty (page 20).

Finally, the long-running Potato Tracker project has now come to an end, however you can find an overview of the key findings on page 30. If you're looking for a way to give your business a boost in 2016, you'll find some great ideas covering everything from packaging to consumer trends.



**10**  
Dean Bone



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## Senator Anne Ruston appointed as dedicated Minister for Horticulture



Senator the Hon. Anne Ruston.

The horticulture sector has been appointed its own dedicated minister: Federal Assistant Minister for Agriculture and Water Resources, Senator the Hon. Anne Ruston, who has taken over responsibility for the sector from Agriculture Minister the Hon. Barnaby Joyce MP.

Senator Ruston is based in one of Australia's largest horticultural regions (South Australia's Riverland) and has extensive experience in the sector, having worked as a grower and irrigator before

entering politics. In her new role, Senator Ruston will liaise closely with the horticulture industry on issues such as biosecurity, export market access and levies for R&D.

"Horticulture in Australia is a diverse, dynamic and innovative industry with a bright future," Senator Ruston said.

"I'm very much looking forward to taking on this portfolio and working with the sector to maximise opportunities for growth, prosperity and sustainability."

## AUSVEG VIC: A new beginning for Victoria's vegetable and potato industries

The Victorian vegetable and potato industries have recently entered an exciting era with the launch of new representative body, AUSVEG VIC. The new body will provide Victorian growers with a strong voice in relation to the agri-political issues facing the state's 840 vegetable and potato growers.

"AUSVEG VIC will work closely with growers, politicians and members of the supply chain to ensure that our growers have a strong and effective voice at federal, state and local government levels," AUSVEG VIC President David Wallace said.

AUSVEG VIC will build upon the work done by the Vegetable Growers Association of Victoria (VGA), which was established in 1923.

"I am very proud of the VGA's history and the work that has been done on behalf of Victorian growers. That said, AUSVEG VIC represents an exciting step forward and will enhance the services available to growers in Victoria," Mr Wallace said.

AUSVEG VIC will extend the strong model for industry advocacy that AUSVEG has established at the national level to Victorian growers, and use this experience to effectively

represent grower interests to government and the community and further the development of horticulture in the state.

Seed Potatoes Victoria President Dean Bone welcomed the launch, describing it as "the beginning of a new era for the Victorian potato industry".

Des Jennings, Chairman of the Victorian Potato Industry Advisory Committee, also added that the opportunity for potato growers to become members of AUSVEG VIC "is an important step to enhance the level of representation available to our growers".



Victorian vegetable and potato growers are encouraged to actively engage with AUSVEG VIC, as their involvement will continue to play an integral role in the organisation's success and the continued development of the Victorian industry.

To become a member of AUSVEG VIC, please send your details to [ausvegvic@ausveg.com.au](mailto:ausvegvic@ausveg.com.au), call (03) 9882 0277 or visit the AUSVEG VIC website [www.ausvegvic.com.au](http://www.ausvegvic.com.au).

## An easier way to pay super

The Australian Taxation Office (ATO) has developed a new, streamlined process for small business owners making super contributions on behalf of their employees.

Small business owners must use SuperStream to pay super contributions and send member information electronically. Business owners will be able to pay into multiple super funds through one channel, saving time and money.

While businesses with 20 or more employees should have already begun using the service, the compliance deadline for employers with 19 or fewer employees to implement SuperStream is 30 June 2016.

For more information, employers can find a step-by-step checklist at [www.ato.gov.au/SuperStreamChecklist](http://www.ato.gov.au/SuperStreamChecklist).





## Live Well Farm Well Guide encourages workplace wellness

A joint initiative by Diabetes Queensland, Growcom and the Queensland Government has produced an interactive guide that aims to help agricultural producers introduce health and wellbeing programs on their farms.

The Live Well Farm Well Planning Guide was developed following a pilot project on banana farms that achieved an increase in workers' knowledge and positive behaviour in relation to physical activity and healthy eating practices. Businesses that implement the program can expect to see benefits such as higher worker productivity, decreased workers' compensation and disability claims, reduced absenteeism and a greater ability to attract and retain workers to the farm.

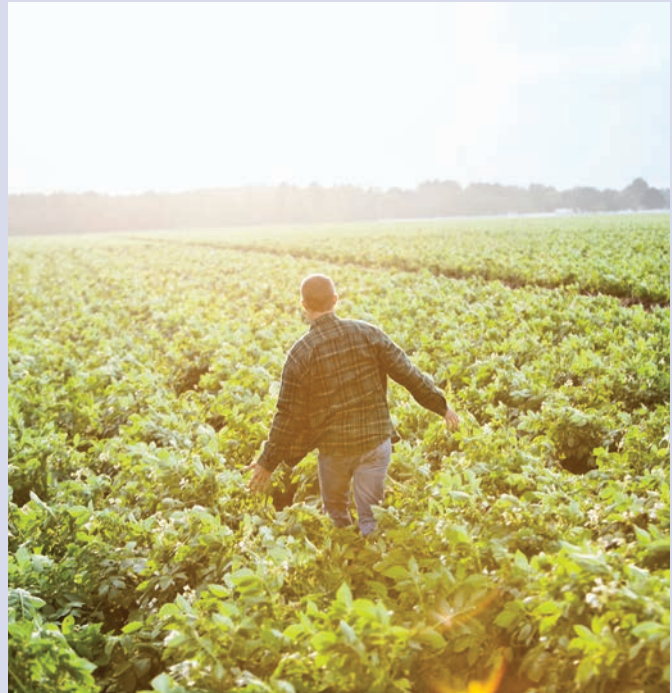
Growcom Acting CEO Donna Mogg urged all growers to

consider introducing the program.

"I urge all farmers to consider introducing a Live Well Farm Well program to their farm. We spend a lot of time at work. From a management perspective, a workplace health and wellbeing program makes good sense in terms of productivity and profitability. Research shows that for every dollar a business invests in employee wellness, \$4 in increased productivity is returned.

"It is vitally important that we look after our health and the health of our workers the way we look after our crops," she said.

The Live Well Farm Well Planning Guide can be accessed at [www.growcom.com.au/live-well-farm-well](http://www.growcom.com.au/live-well-farm-well).



## Solana and Fairbank's Seeds announce new partnership



Solana GmbH & Co. KG has announced Fairbank's Selected Seed Co. Pty Ltd as its exclusive agent for the region.

Solana is a highly regarded, experienced potato breeder based in Germany. It offers modern potato varieties for a range of uses in markets around the world. Fairbank's Seeds has been a supplier in the Australian vegetable seed industry for almost 90 years, and has expressed excitement at expanding into the potato industry with the exclusive agency of the Solana range.

Fairbank's Seeds will be working closely with all key stakeholders in the industry on everything from the establishment of mini-tubers, to seed and potato production, right through to the end users.

The team at Fairbank's Seeds plan to use their experience in genetic importation and their extensive contacts in the industry to ensure that the Solana varieties are well tested under Australian conditions so that all growers and processors have access to the Solana potato range.

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# Respected grower elected as SPV President

AN EXPERIENCED GROWER WITH A PASSION FOR THE INDUSTRY, DEAN BONE IS LOOKING FORWARD TO TAKING ON THE PRESIDENCY OF SEED POTATOES VICTORIA AND WORKING CLOSELY WITH GROWERS AND INDUSTRY BODIES TO PROVIDE NEW, PROFITABLE OPPORTUNITIES FOR THE STATE'S SEED SECTOR.

Dean Bone loves the challenges involved in growing seed potatoes. He's now taking on an even bigger challenge as he steps into the role of President of Seed Potatoes Victoria (SPV).

A respected seed potato grower with over 30 years of experience, Dean first went into business with his father and brothers as soon as he finished school. At first combining dairy farming with potato growing, the family eventually decided to focus solely on seed potatoes.

"We started growing seed in '84 and we just built the business up from there. As each of us got a bit older and got married, we all went our own way, so we've all got our own seed potato businesses now," Dean says.

"My father is still growing seed and he's 76! He started it all; he's the one who got us all into it. We had a lot of help from him, to start with."

## For the love of seed

After many years of running his own business, Dean is still passionate about the seed potato industry.

"I love the challenge of growing a crop," he explains. "Every year you dread the thought of 'here we go again' – you think there's going to be so much work – but once you get into it, it all flows really well. There's not much that's better than growing a good crop of spuds.

"After that, it's about your customers and being able to supply them with something they're happy with. To hear the positive things about how well your seed went is always a bonus. There are also a lot of good people in the industry, and because it's only a small industry, you get to know most of them."



Photography by Warrnambool Photography

## A new leader

Looking ahead to his new responsibility as President of SPV, Dean is excited.

"I'm looking forward to my term, and I hope to be able to work with the committee to sort out the issues that potato growers face in the course of the job," he says.

SPV is the representative body for approximately 70 certified seed producers in Victoria and South Australia. The body assists growers by discussing and resolving a variety of issues, such as disease, pests, OH&S, technology and innovation. Members can be found predominantly in Ballarat, Kinglake, Portland, the Otways and Gippsland in Victoria, as well as Kangaroo Island in South Australia, where cooler climates result in good quality seed that supplies many of Australia's potato growers.

## Challenges ahead

Dean's greatest worry is the effect that Plant Breeder's Rights (PBRs) are having on the industry.

"The work can be rewarding and profitable, however along with the usual agronomic and climate-related issues, we now struggle with the restrictions connected with PBR varieties and the risk involved in putting money and effort into propagating varieties for three

to five years, only to face the prospect that the variety has been discontinued," Dean explains.

"With the decline of public varieties, many seed growers are looking closely at their prospects for the future and the job. There is clearly a need to open discussion on this and other issues, and I'd like to think that five years down the track we'll all be working in a vibrant and viable industry, providing good quality seed potatoes to both local and export markets, and making a dollar as well, which is very important."

## A positive outlook

Despite the challenges, Dean remains confident that SPV can work with other bodies and commercial operations to ensure a fair system that benefits everyone.

"The seed industry is really at a crossroads at the moment," he says.

"I would like to see any seed growers out there with any issues getting in touch with us, so that we can work together to deal with those issues. I'd also like to see us working more closely with ViCSPA, AUSVEG and Horticulture Innovation Australia, as well as commercial growers, packing sheds, supermarkets, etc., to deal with issues together.

"There's plenty in it for everybody; we just need to work together a bit more."



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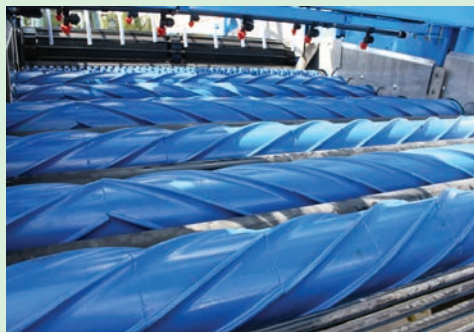
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- Total control

- Open plan chassis
- Great driver visibility
- VariSep – adjustable step between digging and sieving webs
- OMEGA – new fluted roller separation

- High capacity discharge elevator - with extra reach
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## Uncovering the potato levy

THE NATIONAL POTATO LEVY SYSTEM IS VITALLY IMPORTANT TO THE HEALTH OF THE INDUSTRY, PROVIDING POTATO GROWERS ACROSS THE COUNTRY WITH THE LATEST R&D THAT AIMS TO IMPROVE PRODUCTIVITY AND PROFITABILITY IN THEIR BUSINESSES. BUT HOW DOES IT WORK? *POTATOES AUSTRALIA* TAKES A CLOSER LOOK AT THE STRUCTURE AND IMPLEMENTATION OF THE LEVY SYSTEM.

When you're out on the farm growing potatoes, the levy system is also hard at work, investing in R&D projects that aim to benefit growers. While the National Potato Levies were initiated by growers, the intricacies of the system may not be widely understood. With Horticulture Innovation Australia Limited's (Hort Innovation) recent transition to a grower-owned Research and Development Corporation, now is a good time to take a fresh look at the system that manages your levy funds.

The potato levy system was developed at the request of the potato industry to provide valuable R&D that would benefit the entire potato growing community. Over the years, the system has made investments in a wide range of projects, from pest management studies to consumer research.

### Paying the levy

The levy is paid by growers who produce and sell either fresh or

processing potatoes in Australia. The charge is set at 50 cents per tonne for both types and must be paid by the producer of fresh potatoes (the person who owns the potatoes immediately after harvest) or the owner of processing potatoes (the person who owns the potatoes when

processing begins).

If a producer of fresh potatoes sells their produce through a first purchaser, buying agent, selling agent or merchant, this intermediary must pay the levy and submit all return forms on behalf of the producer.

If a producer sells fresh

potatoes to a processor, the processor is the intermediary and must pay the levy and submit all return forms on behalf of the producer.

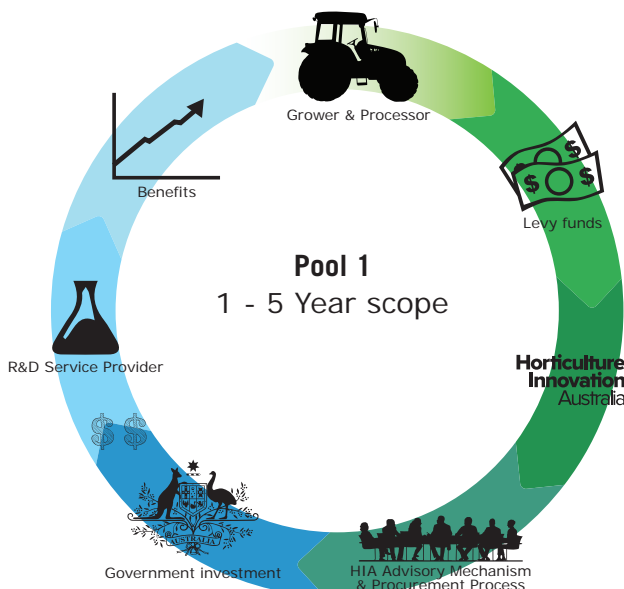
If a producer sells fresh potatoes direct to the consumer at stalls or markets, they must pay the levy and submit all return forms themselves.

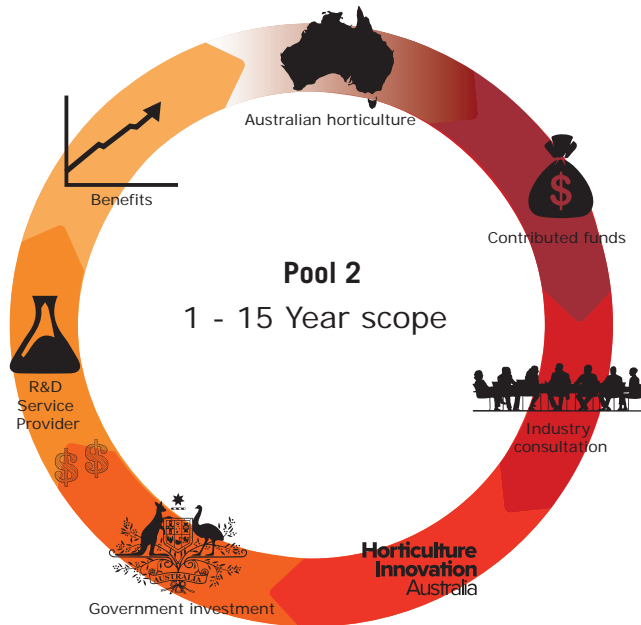
The Federal Government also provides funding in addition to the levy payments. This doubles the funds available to invest in research projects that address the industry's toughest issues, such as pest incursion control, biosecurity and improving market access. Once paid, these funds are managed by Horticulture Innovation Australia Limited (Hort Innovation), which seeks grower and industry advice to allocate the funds to the most valuable research projects.

### Two pools of funds

The key update to the system is that funding will now be split into two pools.

Pool 1 is funded by grower levies with contributions from





the Federal Government. This pool has a one to five year scope and will invest in applied R&D, designed to directly benefit growers. Projects funded by Pool 1 encompass biosecurity matters, growing techniques, weeds, pest and disease management approaches and more, with the findings communicated to growers through a variety of channels, including publications such as *Potatoes Australia*.

Pool 2 matches strategic

co-investment funds with at least \$20 million of government seed funds annually to address cross-industry challenges and opportunities of strategic and long-term importance to Australia's horticulture industries. To access these excess government funds, Hort Innovation will secure co-investments from external sources, including Federal and State Government, industry bodies, academic bodies, international bodies and

commercial organisations. Industry levies may be invested in Pool 2 funds, but only if this is in accordance with grower wishes and would be of benefit to the specific industry.

This pool has a one to 15 year scope and will invest in larger, long-term strategic projects across multiple industries within horticulture. Four 'Foundation Funds' have so far been established to direct these strategic projects.

- The **Leadership and People Development Fund** will focus on developing future grower and industry leaders and innovators.
- The **Fruit Fly Fund** is committed to a strategic, coordinated and national approach to the management of the Queensland fruit fly and Mediterranean fruit fly.
- The **Asian Markets Fund** will address the need to stimulate domestic and export growth by focusing on a better understanding of Asian markets.
- The **Green Cities Fund** will investigate the key challenges associated with urban greening, which has a limited application to horticulture.

Another six to eight funds are yet to be determined by Hort Innovation. Each fund will work with an expert panel to identify projects that are suitable for funding within their scope.

### Consulting growers

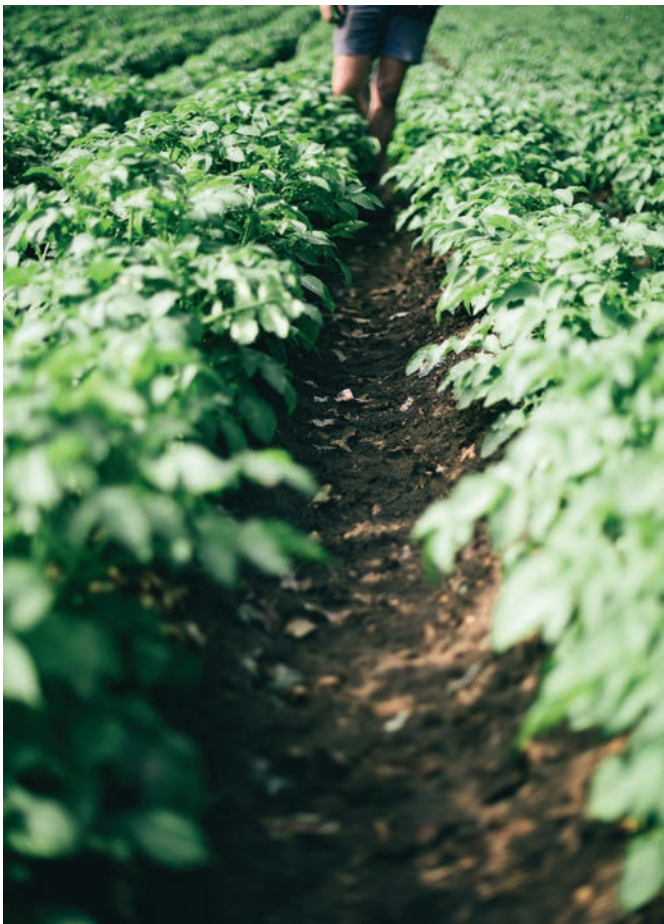
Hort Innovation has specified that growers and Industry Representative Bodies (IRBs) are fundamental in advising on the allocation of both Pool 1 and Pool 2 funds. Although Hort Innovation is still in the process

of creating a new strategy for obtaining advice, an interim framework is being used that ensures growers are the primary source of advice. AUSVEG, the national IRB for the potato industry, will also be involved in the advisory process to convey the needs of the industry as a whole.

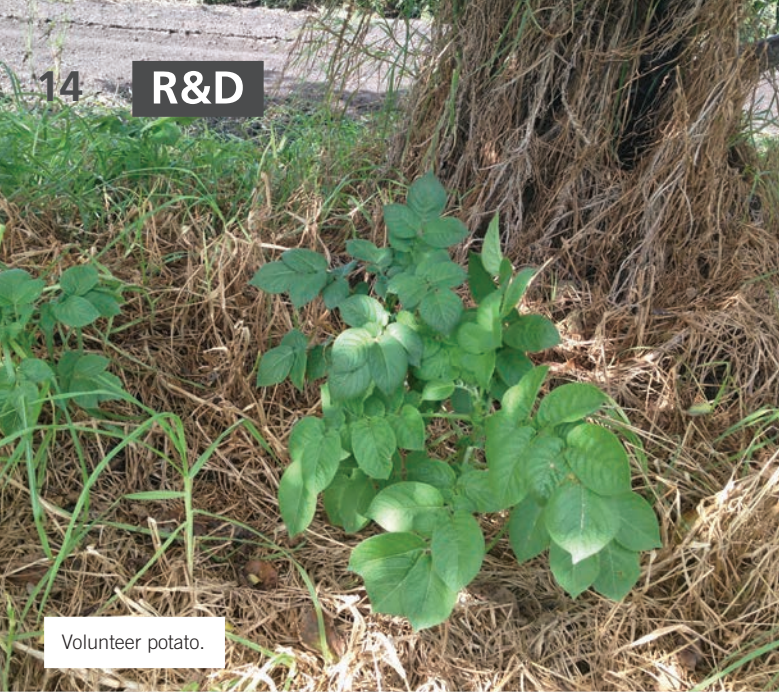
When it comes to general matters, growers and industry stakeholders will be engaged in extensive consultation with Hort Innovation, in a three-stage approach.

- **Regional grower meetings:** The annual 'Between the Rows' meetings are held in all major horticulture regions around Australia, giving growers an opportunity to meet with Hort Innovation representatives, be informed about current R&D activities and share feedback or ideas on investment priorities.
- **Industry specific consultation programs** will be conducted as required and will include engagement with IRBs.
- **Individual grower and grower group consultation** will be conducted as required.

In addition to these consulting opportunities, growers can submit ideas for R&D to Hort Innovation via its website at any time of the year via the Concept Portal at [www.horticulture.com.au/concept-proposal-form](http://www.horticulture.com.au/concept-proposal-form).



For more information about the National Potato Levies, visit [www.ausveg.com.au/rnd/thelevysystem/potatolevy.htm](http://www.ausveg.com.au/rnd/thelevysystem/potatolevy.htm)



Volunteer potato.



PVY glasshouse experiment.

## Stopping the spread of PVY

NEW RESEARCH FROM WESTERN AUSTRALIA HAS INVESTIGATED THE POTENTIAL FOR POTATO VIRUS Y (PVY) TO BE TRANSMITTED BETWEEN PLANTS AND CROPS BY VARIOUS FORMS OF CONTACT. THE FINDINGS HAVE MAJOR IMPLICATIONS FOR THE MANAGEMENT OF PVY ON-FARM AND HIGHLIGHT THE NEED FOR GOOD HYGIENE PRACTICES AROUND POTATO CROPS. *POTATOES AUSTRALIA* REPORTS.

Potato virus Y (PVY) is a highly damaging virus that can result in huge economic losses for potato growers. While it was previously known that PVY can be spread via infected tubers or aphid vectors, anecdotal evidence from several countries suggested that it might also be transmissible via contact with an infected plant or plant material.

As there was no scientific evidence to support this contention, a recent study led by Department of Agriculture and Food, Western Australia researcher Dr Brenda Coultts aimed to investigate whether PVY could indeed be transmitted via contact. The findings have proved hugely important for potato growers across Australia and the world.

"When PVY became a concern for WA potato growers, they wanted to understand

more about the problem," Dr Coultts said of her reasons for initiating the study.

"This was an area lacking knowledge, but one that could have implications for how the virus spreads and how growers can manage it."

### Major findings

The study demonstrated that PVY ('O' strain) can be spread from a PVY-infected plant to a healthy plant by contact transmission. Dr Coultts found that contact can occur when the leaves of plants rub together naturally or when plants are damaged by machinery and people.

However, PVY-infected plants don't have to be side-by-side to spread the virus by contact. It was also found that the virus could survive in sap for up to six or seven hours.

"When PVY sap was put on cotton and tyre for six hours and then rubbed onto a healthy plant, the plant became infected," Dr Coultts explained. "For hessian and wood, after five minutes the PVY was no longer able to spread to healthy plants."

Another interesting finding was that the virus was able to be transmitted via the cut surface of an infected tuber

rubbing onto the leaves of a healthy plant. To a limited extent, this also occurred when blades contaminated with infective sap were used to cut healthy tubers.

PVY was also found to survive in self-sown or 'volunteer' potatoes from a site with a previous history of PVY infection in a seed crop.

### A new awareness

These findings have major implications for potato growers, as the potential for PVY to spread from one location to another on clothing, equipment or machinery is high.

"If an infected plant is damaged and sap or leaf material adheres to the tyre, PVY could spread between plants or crops as the machinery moves and the tyre damages other plants," Dr Coultts said.

Fortunately for growers, contact transmission can be largely prevented by using good hygiene practices. For instance, the study found that household bleach and Virkon-S were very successful in deactivating PVY, with non-fat dried milk also leaving little infectivity.

In addition, an integrated disease management strategy

for PVY across a property could include removal of self-sown potatoes and rigorous on-farm hygiene practices such as disinfecting tools, machinery, footwear and clothing.

Dr Coultts advised that when cutting tubers, care should be taken to ensure all parts of the cutting equipment are thoroughly decontaminated between seed lots and all excess plant material is carefully disposed of.

Her main recommendation, however, is to avoid planting PVY-infected crops in the first place.

"By planting virus-tested potato seed and ensuring it is free from known viruses, growers are starting with a 'clean' crop," Dr Coultts explained.

"As PVY continues to be a problem in some growing areas, further research is necessary to identify alternative hosts of PVY and the aphid species that spread it, as well as information on potato variety sensitivity to PVY infection and screening for resistance."



PVY-infected Nadine tuber.



For more information, please contact Dr Brenda Coultts at [brenda.coultts@agric.wa.gov.au](mailto:brenda.coultts@agric.wa.gov.au) or (08) 9368 3266.

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## Healthy system, healthy seeds, healthy crops

A RECENT REVIEW OF THE NATIONAL SEED POTATO CERTIFICATION SYSTEM RECOMMENDED THAT IMPROVEMENTS TO THE SYSTEM ARE NECESSARY, WITH A FOCUS ON OVERSIGHT, TRANSPARENCY AND INTEGRITY. *POTATOES AUSTRALIA* SPOKE TO DR DORIS BLAESING, THE LEAD CONSULTANT, TO DISCOVER HOW THE REVIEW WAS CONDUCTED AND WHAT WAS FOUND.

The seed potato industry in Australia supplies thousands of growers across the country and is essential in providing good quality potatoes to both Australian and international markets.

To ensure potatoes meet the high quality that is expected of Australian produce, it is critical that seed potatoes are in good health at the time of planting. The aim of certification is to reassure growers that the seed they are buying will produce a healthy, disease-free crop.

The current seed potato certification system, however, is not in good health. This is according to a recent review of the system, commissioned by Horticulture Innovation Australia, managed by

AUSVEG and run by RMCG.

Leading the research team was RMCG Associate, Dr Doris Blaesing, an experienced and respected researcher within the horticulture industry.

"Many commercial growers and also some seed potato growers were unhappy with the current status of what they're getting as certified seed or the service they are getting," Dr Blaesing said of the reasons for the review.

"While there are regional differences, people felt that important aspects of the overall system are failing. They felt that the communication sometimes isn't good enough and there is a lack of transparency. Some people talked about poor integrity.



RMCG Associate Dr Doris Blaesing led the Seed Potato Certification Review.

"Feedback was quite different in different states and regions, so there were some people who were quite happy and others who were really unhappy. But there was enough discontent to look closer."

### The review process

Dr Blaesing explained that the first stage of the review simply looked at whether there was a need to progress to stage two, and included a thorough review of certification delivery and the quality of the current National Standard. To determine this, she talked to around 50 people from different states and potato industry sectors, who, she

says, all had different views and opinions. All agreed, however, that improvements could and should be made to the current system.

"We produced an online survey, which was promoted quite heavily by AUSVEG for eight or nine months. At the same time, people were encouraged to call or write to us, with many taking up that opportunity," she said.

"We also actively interviewed people on the phone from each state. I wanted to give every certifying body and minituber producer the opportunity to talk to me one-on-one, so they could be frank. It gave me a good understanding of the degree of grief that some people had with the system."



She also looked at the certification systems of other industries and those for seed potatoes in other countries, to gain an understanding of how such a certification system can best function.

"I looked at our system as if I was an overseas buyer or competitor. How do we stack up?" she explained.

"I looked at other certification bodies – building certifications, laboratory or food safety certifications – and they're all third party audited systems. So if I get a certificate, I know that the person or company who delivers the certificate is accredited. And I realised that's not happening with seed potatoes; there is no independent oversight or review process."

## The findings

Unlike the certification bodies of other industries, Dr Blaesing saw that the seed potato certification system is self-regulated, with an overall lack of uniformity and transparency. There is no independent governing body to oversee the certification bodies and conduct independent checks on them, and there is no accreditation system for certifiers.

"If I compare it with proper certification systems, we're missing something here. And that is a third party check that everything is above board. If you look at the international scene, there's a need for what they call a 'Designated Authority,' which we do not have," Dr Blaesing said.

As it stands currently, the industry has a National Standard that was last published in 2007. The review found, however, that several regional or state-based approaches to certification developed alongside the Standard to fit each state's own requirements, with only Western Australia using a transparent process.

As there is no Designated Authority to oversee these approaches, each state has been free to make its own amendments to the Standard and interpret it in its own way. Dr Blaesing explained that this uncoordinated method of amending a standard is very risky.



"The certifiers, even though they are important and they can advise a Designated Authority, cannot be the authority because they're compromised," she said.

"They are providing a service, and they get paid for the service by seed growers. They shouldn't be the ones who review the Standard, because they're the ones who are implementing it. It's not a good process."

She added that some state certifiers have not always been transparent with the changes they have made to the Standard.

"In some states it's difficult to actually find a copy of the currently used, 'updated' version of the Standard. It's difficult to find the original National Standard. Only Western Australia has clearly documented what they have done."

## Industry is not to blame

Dr Blaesing, although disparaging of the current system, notes that it was simply an unfortunate series of events that led to the issues the certification system now faces.

"You can't blame people, because this all used to be done by the government so there was an authority behind it. But then the government pulled out in different states in different ways, and something had to fill the void. People did it, and that's good. But because the overarching system had gone, suddenly people felt like they'd replaced the government authority and

tried to act like an authority, but they weren't. When you look at it in the cold light of day, something doesn't look quite right," she explained.

## The recommendations

With so many issues, Dr Blaesing believes the solution is quite straightforward.

"The recommendation is to have a Designated Authority," she advised. "To have a framework; to have transparency and integrity. With transparency comes integrity, because if someone does funny things, it's obvious and growers have a way to point out issues to an independent body."

She would also like to see standard training for certification officers, and perhaps more choice in certifiers. Currently, each state only has one certifying body.

"At the moment if you're in Victoria you can only use ViCSPA and likewise in other states, there is no choice. But if I want to get a building certified, I have a whole list of accredited certifiers and I could choose somebody who is recommended to me. There is no choice in the seed industry."

Finally, a key recommendation of the review was to redevelop the National Standard, with improvements to document control, structure, content, references to science and the use of new science. She believes the standard should be developed by people with the right technical expertise, and that the industry

and growers should know who is doing it and how.

"It should not be behind closed doors," she warned.

## The future of seed

Dr Blaesing is positive about the future of the seed certification system.

"What I liked from the survey was that a lot of people had a really nice vision for the industry and for seed potato certification. It seems the majority of people really want a good future. And that's what we're talking about; the solid and prosperous future of our seed potato growers. We want young people in the industry to have confidence in it and feel that it's structured and working well," she said.

"In my opinion, if the revised system is working as it should, growers will have more confidence in buying certified seed. And hopefully by having a really good, above-board system, we'll have a better competitive edge on export markets. We can proudly say, 'this is what we're doing' and you can confidently get what you order."



The Seed Potato Certification Review was funded by Horticulture Innovation Australia Limited (HIA) using the National Potato Levies and funds from the Australian Government.

Project Number:  
PT13010



## Paul and Leanne Campbell: An innovative duo

COMBINING A LOVE OF NEW TECHNOLOGIES WITH A PASSION FOR GROWING A VARIETY OF CROPS, TASMANIAN POTATO GROWERS PAUL AND LEANNE CAMPBELL ARE NOT AFRAID OF A CHALLENGE. STEPHANIE EAVES CHATS TO THE PAIR ABOUT THEIR INNOVATIVE APPROACH TO GROWING AND THE ONGOING FIGHT FOR BETTER LABELLING LAWS.

Growing is rarely a solitary pursuit, and no one embodies the spirit of teamwork as well as Paul and Leanne Campbell. The couple met in high school and they recently celebrated their 27th wedding anniversary.

“I think we work well as a team,” Leanne says. “Paul is very good at what he does – he’s always loved and enjoyed farming; he always wanted to have his own farm and to work for himself.”

Working on the property they have owned and run for the last 12 years, Paul and Leanne have developed an effective style of working together that

has held them in good stead through both tough times and prosperous times.

“I help out during harvest season, with logistics, helping to move machinery and helping on the harvester when need be. And I do all the book keeping,” Leanne says.

“And I do everything else,” Paul laughs.

### Potatoes plus

The Campbell’s farm in Sassafras, northern Tasmania, has always been the perfect place to grow a variety of crops. They grow Russet Burbank, Ranger and Top Cat potatoes

for Simplot, to be used for McDonald’s French fries. In addition to potatoes, Paul and Leanne grow beans, poppies and wheat. Paul believes that the climate, water supply and mild temperatures make Sassafras particularly enviable in terms of growing conditions.

“We don’t get the extreme weather conditions that other parts of the country get,” he says proudly.

“Even though we’ve had a really dry winter and we’re heading into a dry summer, that’s nothing we haven’t dealt with before.”

When harsh weather conditions do strike, Paul





Photography by Belle Young

the Fair Dinkum Food campaign back in 2005. The campaign was sparked by the loss of several lucrative contracts to foreign countries.

“At that stage McDonald’s was changing its contracts, so we lost half of the potato contract with them,” Paul recalls.

“So it was time to go to Canberra and tell them what was actually going on. There were a lot of people involved. We were fighting to change the labelling laws.”

Leanne shares in the memory, “Paul and I drove the tractor from Sydney to Canberra. When we got to Canberra there were around 200 tractors there! The Tasmanians started it and we picked up mainland growers on the way. It was a good thing to be part of.”

When asked if they could see the effect that this campaign had 10 years on, Paul admits that progress has been slow, but with some recent law changes, things were looking up.

“It’s trying to make (consumers) aware of what’s actually in the packet on the supermarket shelf,” he says.

“It’s not easy to find out where the produce in the bag actually comes from.”

### Making life easier

Looking ahead to the future, Paul and Leanne plan to continue their effective style of team work.

“I tell him I’m the brains and he’s the brawn!” Leanne laughs. “I do the business side and he does the work side, and we help each other when we need to.”

The couple hopes that one of their four boys might run the farm one day, but they believe it is much more important that they experience the world first.

“We think it’s important for them to go off and find their own way in the world,” Leanne says. “If they do come back to the farm, that’s good; but if they don’t we’ll deal with that, as long as they’re happy in what they’re doing.”

Leanne goes on to say that they would like to keep spending on infrastructure and technology to make their lives easier and the farm more productive and profitable.

“We’re not like farmers back in the dark ages who won’t change anything or do anything differently,” Leanne says.

“If there’s something new and different we like to try it. Anything that makes life easier!”

and the soil seems to be in much better condition.”

### Futuristic farming

Key to the Campbells’ success is their love of trying new technologies. Their chicken sheds are equipped with a Rotem Controller – a technology that communicates the conditions of the shed to any computer or mobile device. Meanwhile, their potato and vegetable crops have just been treated to a new irrigation system that can be operated from a mobile phone.

“We’ve only had it up and going for a few weeks,” Leanne says. “But we hope that for irrigation season it will make life a lot easier than moving travelling irrigators all the time. You’ve got one machine that walks up and down the farm and it can do the lot! And it seems to give better water coverage, so hopefully we’ll get better crops.”

“Paul is a great believer in anything he can do with a machine,” Leanne continues. “If there’s something he can only do manually, he’ll rig up something on a tractor and make it work. He’s very inventive like that.”

### Pioneering Country of Origin Labelling

Clearly a forward-thinking pair, Paul and Leanne were pioneers of the Country of Origin Labelling push, taking part in



and Leanne have another commodity they can fall back on – their chickens. Having started the sideline project four years ago, the couple now has four sheds capable of housing up to 20,000 chickens each.

Leanne explains that this project has benefitted the rest of the farm, thanks to the vast amounts of free fertiliser to which they now have access.

“We use the litter from the sheds to spread as fertiliser all over the farm,” she says. “And that’s been great because it has cut down our fertiliser expenses and we think it’s made our crops a lot better. We noticed there are a lot more worms now,





## The Australian biosecurity system under the magnifying glass

THE FACE OF THE AUSTRALIAN BIOSECURITY SYSTEM IS QUICKLY EVOLVING, WITH INDUSTRY BEING REQUIRED TO TAKE AN INCREASINGLY ACTIVE ROLE IN THE SPACE. A RAPID RE-EVALUATION OF BIOSECURITY, OWNERSHIP OF ASPECTS IN THE SYSTEM AND DETERMINATION OF WHO IS RESPONSIBLE FOR MAINTAINING GOOD PRACTICE AND DECISION MAKING IS CURRENTLY IN MOTION. AUSVEG NATIONAL MANAGER – SCIENTIFIC AFFAIRS DR JESSICA LYE EXPLAINS.



with Dr Jessica Lye

The changing landscape of Australian biosecurity has never been more evident than during 2014 and 2015, when Australia was bombarded with a range of pest incursions and insufficient resources to adequately deal with the outbreaks without strong support from industry.

Recent redevelopments in state and federal biosecurity legislation has made it clear that there is a push towards simplifying our currently complex biosecurity system and making biosecurity a shared concern across government and stakeholders.

### Joint responsibility now enshrined in legislation

The Queensland Government has ratified the new *Biosecurity Act 2014*, which will come into effect on 1 July 2016. A significant component of the Act is the General Biosecurity Obligation, which

makes provisions for shared responsibility of biosecurity duties across industry and the wider community.

The General Biosecurity Obligation places the responsibility on all persons to take reasonable and practical steps to prevent activities from causing a biosecurity event, such as spreading a pest insect or disease or introducing a weed. In introducing the obligation, the Act recognises each person's role in preventing, eliminating or minimising biosecurity risks based on their level of knowledge and understanding.

Under this obligation, all reasonable and practicable measures to prevent, eliminate or minimise the biosecurity risk must be taken. An example of a reasonable measure may be holding a meeting in a neutral location, rather than at a property that is susceptible to a pest outbreak. While the regulations resulting from the

Act are not finalised, it is likely that not fulfilling the General Biosecurity Obligation will result in a warning and/or fines.

Other states, such as New South Wales, are also adopting a similar concept within biosecurity legislation. The New South Wales *Biosecurity Act 2015*, which was assented to in September 2015 and is expected to come into effect in 2017, contains a General Biosecurity Duty. The General Biosecurity Duty can be found in Part 3 of the NSW Act. Specifically, section 22 of the Act specifies:

*Any person who deals with biosecurity matter or a carrier and who knows, or ought reasonably to know, the biosecurity risk posed or likely to be posed by the biosecurity matter, carrier or dealing has a biosecurity duty to ensure that, so far as is reasonably practicable, the biosecurity risk is prevented, eliminated or minimised.*

### Update on the Federal Biosecurity Act 2015

The Federal Biosecurity Bill 2014 and supporting legislation received royal assent from the Governor-General on 16 June 2015 and has now become the *Biosecurity Act 2015*. The 12-month delay is to ensure clients, staff and stakeholders understand their rights and responsibilities under the new Act and that there is a smooth transition to the new regulatory arrangements.

AUSVEG provided a submission on the draft Biosecurity Bill in January 2014 and will be providing comment on draft regulations during the consultation period. When they are passed and come into effect, these draft regulations will supersede the *Quarantine Regulations 2000*.

Draft regulations for Biosecurity Import Risk Analyses (BIRAs) were made available for comment from stakeholders. The

submissions closed in mid-December 2015.

A major addition to the regulations, which is not present in the *Quarantine Regulations 2000*, is the inclusion of the Inspector-General of Biosecurity and the ability for stakeholders to request a review of the process of a specific BIRA by the Inspector-General.

### What is the Inspector-General of Biosecurity?

In 2008, as part of its preliminary response to the Review of Australia's Quarantine and Biosecurity Arrangements, as well as in response to the Equine Influenza outbreak of 2007–08, the Federal Government agreed to establish the office of the Interim Inspector-General of Biosecurity within the Department of Agriculture.

On 1 July 2009, the government appointed an Interim Inspector-General of Biosecurity to conduct regular audits of the biosecurity system. Currently, audits carried out by the Interim Inspector-General of Biosecurity identify areas of weakness in the system and inform government and industry regarding areas that represent an effective allocation of resources. Under the Federal *Biosecurity Act 2015*, the Inspector-General of Biosecurity will become a statutory position.

### An evolving system

Upcoming changes to key biosecurity legislation, such as the Federal, Queensland and New South Wales Biosecurity Acts, have made it clear that the Australian biosecurity system will soon be entering a new era.

The addition of the General

Biosecurity Obligation in primary state legislation will undoubtedly initiate changes in attitude towards biosecurity responsibilities. Under this new paradigm, biosecurity responsibility will be held by all stakeholders, rather than being left solely to government or industry.

A major challenge, however, will be making stakeholders aware of this obligation. It is important not to understate the

importance of joint responsibility in the Australian biosecurity system – a concept emphasised in the 2008 Beale Review: “One biosecurity, a working partnership” – but one that is yet to come to fruition in Australia. What is clear is the essential role to be played by industry representatives in the evolution of this space.



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, see the farm biosecurity website at [www.farmbiosecurity.com.au](http://www.farmbiosecurity.com.au), or contact AUSVEG National Manager – Scientific Affairs Dr Jessica Lye on (03) 9882 0277 or email [jessica.lye@ausveg.com.au](mailto:jessica.lye@ausveg.com.au).

## Potato spindle tuber viroid update

Potato spindle tuber viroid (PSTVd) is highly transmissible by touch. The viroid causes significant disease symptoms that affect production and certification arrangements for a broad range of host species, including capsicums, tomatoes and potatoes.

PSTVd has never been detected in Australian potatoes. Australian-produced certified seed potatoes undergo testing, crop inspection and monitoring regimes to meet certification requirements.

In response to detections of PSTVd in Queensland and Western Australia, the Victorian Department of Economic Development, Jobs, Transport and Resources (DEDJTR), Biosecurity South Australia and Biosecurity New South Wales will be imposing restrictions on certain high risk host material effective **1 March 2016**.

The following conditions will come into force.

### Seed potatoes:

- Must be accompanied by a certified seed docket verifying that the consignment was produced in accordance with the requirements of the National Seed Potato Certification Standards; or
- Must be accompanied by a plant health certificate or assurance certificate certifying that the consignment has originated from a crop that has been tested<sup>1</sup> for PSTVd.
- In South Australia and Victoria, these restrictions will be imposed at state borders.
- The above restrictions in New South Wales will only apply to the entry of host material into the Guyra and Crookwell plant protection districts.

For further information, please contact DEDJTR on 136 186, Biosecurity SA on (08) 8207 7900 and Biosecurity NSW on (02) 9638 1976.

<sup>1</sup>Tested means that a 200 leaf sample has been collected from the crop during the growing season and tested at an approved laboratory (Crop Health Services) for the presence of PSTVd.



PSTVd damage. Photo courtesy of the European and Mediterranean Plant Protection Organization.



PSTVd damage. Photo courtesy of Central Science Laboratory, Harpenden.

## Swiss potato losses highlight importance of quality and aesthetics

POTATOES HAVE PREVIOUSLY BEEN FOUND TO HAVE A HIGH RATE OF LOSS IN SWITZERLAND. *POTATOES AUSTRALIA* EXPLORED THE FINDINGS OF A SWISS STUDY THAT INVESTIGATED THE REASONS BEHIND THIS WORRYING TREND, DISCOVERING THAT THE QUALITY OF POTATOES, PARTICULARLY AESTHETICS, PLAYS AN IMPORTANT ROLE.

Produce losses are always concerning, as they represent a loss in potential revenue for growers. A recent research study from Switzerland investigated losses of potatoes along the entire Swiss supply chain, giving an insight into where the greatest losses occur and how this might be minimised.

Leading the study for research institute Agroscope was doctoral student Christian Willersinn, who was moved to undertake the research after seeing the results of a British study that looked at losses of many different foods.

“They found that, in particular, potatoes have high loss rates along the entire supply chain. We thought it would be interesting to investigate that single product,” Mr Willersinn said.

### Quantity and quality

The study measured the quantity of potato losses by implementing field trials, interviews with wholesalers, processors, retailers and consumer surveys, which included a 30-day diary. The quality of lost potatoes was also examined by looking at technological, institutional and social drivers, as well as assessing losses driven by food safety standards and consumer aesthetic preferences.

The results showed the enormous scale of the problem. In Switzerland, more than half of all fresh potatoes and almost half of all processing potatoes are lost from field to plate. While Mr Willersinn wasn't surprised by these findings, he did note that it was interesting that potato quality played such an important role.



According to the study, approximately half of all fresh and processing potato losses occur due to quality reasons. These include social drivers such as preferences for peeled potatoes and aesthetic expectations; technological issues such as mechanical peeling, storage and transportation; and food health and safety drivers.

### The importance of aesthetics

More than 66 per cent (non-organic) and more than 75 per cent (organic) of all fresh potato losses, as well as 55 per cent (non-organic) and 65 per cent (organic) of processing potato losses occur due to social drivers.

“We found out that the majority of losses are socially driven by consumer behaviour or consumer preferences,” Mr Willersinn said.

“That does not mean that these losses occur at private households, but (rather) that producers and wholesalers sort potatoes according to consumer preferences.

“We found that just five per cent of the whole potato harvest needs to be thrown out due to food safety and consumer health. The remaining 20 per cent, which does not pass the (Swiss) quality requirements, would not be a hazard for

consumers' health, but they either have bad storage abilities or they do not pass consumers' aesthetic expectations – and others are just unappetising.”

### Raising awareness

So what does this mean for Australian potato growers? Mr Willersinn explained that quality is the most important factor to be aware of, as improved quality will result in fewer losses.

“The top priority should be developing methods to improve the potato quality and thus minimise the share of potatoes that do not pass the quality standards; for instance new breeding, improved cultivation methods, combating wire worms, etc.,” he said.

However, Mr Willersinn noted that it is not just growers who can influence losses.

“Consumers should be more aware of the value of food,” he explained. “An effective way (to minimise losses) might be to better educate people.

“We found that older people waste significantly fewer potatoes than younger people. Maybe food has a higher value for them. Raising awareness of the wasted amounts might help.”



For further information, please contact christian.willersinn@agroscope.admin.ch.



## Preventing fungicide resistance in *Rhizoctonia* management in potatoes

*RHIZOCTONIA* MANAGEMENT IN POTATOES RELIES ON CAREFUL USE OF FUNGICIDES TO ENSURE THAT THE DISEASE IS SUPPRESSED WITHOUT RESISTANCE BEING ALLOWED TO BUILD. A NEW PRODUCT HAS BEEN DEVELOPED WHICH PROVIDES A NEW CHEMICAL ROTATION OPTION, ENSURING A MORE SUSTAINABLE DISEASE MANAGEMENT PLAN.

*Rhizoctonia solani* or 'Black scurf' is a destructive fungus that can cause devastating losses of potato yield. It can be initiated by both seed borne and soil borne infection and thrives in conditions of cool temperature, high soil moisture and neutral to acid soil. Although it is not possible to completely control *Rhizoctonia*, by following an integrated disease management plan it can be successfully managed. One of the major difficulties that growers face in implementing such a plan is that of preventing strains of this disease from developing resistance to the available chemicals.

### New solution

While other registered fungicide products work well to combat *Rhizoctonia*, growers should not rely on only one product, as doing so is likely to result in resistant strains of *Rhizoctonia* becoming prevalent on their property. To assist in management of resistance, a new product has been released. Emesto® Prime, from Bayer

CropScience, belongs to a different chemical group and has a different mode of action, making it the perfect partner to other registered fungicides as part of a sustainable *Rhizoctonia* management plan.

Bayer Representative Alistair Beyer explained how the new product differs from other fungicides on the market.

"The active ingredient in Emesto Prime is a chemical called penflufen, which is a Group 7 chemical.

"Continued use of just one product isn't sustainable, but switching between the different chemistry groups for *Rhizoctonia* management is a much more sustainable practice. This product offers that option," Mr Beyer said.

*Rhizoctonia* acts by restricting the ability of the potato plant's roots to utilise nutrients and water from the soil, preventing the plant from growing healthy tubers. Emesto Prime is a liquid product that is sprayed directly onto and around the seed tubers during the planting stage. If *Rhizoctonia* infection is present in the soil, the product provides protection against

the disease infecting the roots while they establish. It does not provide protection against tuber borne disease.

"The product isn't very mobile; and doesn't move very far," Mr Beyer said.

"That's a good thing because the *Rhizoctonia* is coming from the soil around the tuber, so if you can keep the product in that location rather than it leaching away from the tuber or moving up into the plant, it will protect the roots of the seed potato."

### Peace of mind

Emesto Prime provides comprehensive control of soil borne *Rhizoctonia*, acting on all of the key strains of the disease that affect potato production in Australia. Mr Beyer reassured growers that they do not need to worry about which strain of the disease they might have.

"It provides peace of mind that if you use this product, it doesn't matter which strain you've got, you'll be able to effectively manage it."

Although the new product is effective, it is strongest when used in rotation with

a fungicide belonging to a different chemical group, such as Group 11 fungicides. Overuse of any chemical group is likely to result in high levels of fungicide resistance in disease populations. Mr Beyer stressed that chemical rotation will ensure successful management of *Rhizoctonia* and allow growers to use the same chemicals for longer.

"There's some good chemistry out there already, but it's not sustainable to continuously use one product. There are not many management tools for *Rhizoctonia* in potatoes, and Emesto Prime provides another option. Rotating other registered fungicide with Emesto Prime makes a lot of agronomic sense."



For more information, please visit [www.bayercropscience.com.au](http://www.bayercropscience.com.au). Emesto® is a Registered Trademark of the Bayer Group.

## Late blight update: No new strains of *Phytophthora infestans* found in Australia

NEW DATA CONFIRMS THE RESULTS OF TESTS DONE MORE THAN A DECADE AGO, WHICH FOUND THAT THE POPULATION OF THE LATE BLIGHT FUNGUS IN AUSTRALIA IS MADE UP OF ONLY ONE STRAIN, AN ARCHAIC TYPE NO LONGER FOUND ANYWHERE ELSE IN THE WORLD. NEVERTHELESS, THIS STRAIN CAN STILL CAUSE SIGNIFICANT DAMAGE TO POTATO CROPS IN SOME PARTS OF THE COUNTRY WHEN WEATHER CONDITIONS FAVOUR DISEASE DEVELOPMENT.

Many years after it led to the devastating Irish Potato Famine, the fungal-like pathogen *Phytophthora infestans*, which causes the disease known as Late blight, continues to wreak havoc on the world's potato crops.

A weather-driven disease, Late blight strikes when conditions are humid, stagnant and warm. While these weather conditions are not common in Australia's potato growing regions, growers should still be prepared at the start of every season. Senior Research Scientist at the Victorian Government Centre for AgribioSciences Dr Dolf de Boer has been analysing Late blight in Australia since the late 1990s and more recently in Papua New Guinea and other parts of South East Asia. He recently received the results of his latest tests, conducted by researchers at the James Hutton Institute in Scotland.

### A weather-driven disease

Typically, Late blight will develop when there are periods of moist air combined with stagnant or slow moving depressions that give rise to lengthy periods of still, humid, overcast weather. Several days of humid weather

with warm days and cool nights that result in periods of moisture on the leaf surface (dews, mist or rain) are required for infection and disease to occur.

In many of the potato production areas of Australia, weather conditions are typically hot and dry and not conducive to Late blight. Nevertheless, the disease occurs sporadically and locally (not widespread), usually on the north coast of Tasmania, northern New South Wales, Victoria and on the Limestone Coast of South Australia, when weather events conducive to the disease occur.

### Testing through the years

The pathogen, *Phytophthora infestans*, exists in two forms, known as mating types A1 and A2. There are many different strains of these two mating types that can only be distinguished by sophisticated genetic testing. When A1 and A2 strains meet, sexual recombination can occur, often resulting in the creation of new, more aggressive strains.

Testing of the Australian strain was undertaken in the 1990s and again in the summers of 1999 and 2000, when weather conditions were perfect for Late blight along the south eastern



Fungal spores appear as a white cottony growth on the edge of a blight lesion on the underside of the leaf.

seaboard of Australia. These older-style tests identified the presence of just one strain of the A1 mating type that was characteristic of old populations of the pathogen, found all over the world until the 1980s. This strain was similar to ones that were responsible for the Irish Potato Famine during 1845-1852, which resulted from the introduction of *Phytophthora infestans* from Mexico into Europe at that time.

A second wave of migration of this fungus from Mexico into North America and Europe in the 1970s (carried on potatoes and tomatoes) resulted in the introduction of not only new strains of the A1 mating type, but also the A2 mating type. The mating of compatible A1 and A2 types introduced new genetics, resulting in the development of new populations of very aggressive and highly adaptable strains that have spread around the world with the trade of seed potatoes, with Australia being one of the few countries excepted. Many of these strains are resistant to the fungicide metalaxyl, one of the most effective weapons against this pathogen, and are proving to be very difficult and costly to control, requiring very

frequent applications of a suite of fungicides to prevent failure of the potato crops.

### Sophisticated genetic testing

Perfect weather conditions for Late blight resulting from tropical low pressure systems over south eastern Australia during the 2010/11 and 2011/12 seasons provided the opportunity to again test the strain types present in the Australian population, this time using modern DNA-based tests. Infected leaf samples collected in New South Wales, Tasmania and Victoria were squashed onto special cards that bind the DNA. The cards impregnated with the pathogen DNA were sent to the James Hutton Institute in Scotland for analysis.

### No new strains

Dr David Cooke, an expert on Late blight at the James Hutton Institute in Dundee, Scotland, tested nearly 100 Australian samples sent to him by Dr de Boer. Dr Cooke found no evidence in these samples of any of the new, aggressive strains that have spread around the world during the last 30 years.



“These tests confirmed that we have only one strain in this country and only the A1 mating type,” Dr de Boer said.

“In all likelihood, the strain found in Australia has changed very little since the first Australian record of this disease in 1909.”

Interestingly, the genotype affecting Australian crops is novel and has never been found anywhere else among the thousands of samples from around the globe tested by Dr Cooke.

Tests done 15 years ago found that our strain was susceptible to metalaxyl. The recent findings mean that this is likely to still be the case today, although it cannot be confirmed without testing of cultures of the fungus.

Although we currently have

no new strains, it is important to be aware of what would happen if one or more of the new, aggressive strains were to enter the country. These strains are able to function at a wider range of temperatures and under somewhat lower moisture levels than old strains. They also have shorter life-cycles (3-5 days instead of 4-7 days between infection and sporulation). The disease is likely to be more severe, requiring more frequent applications of fungicides to control it when conducive weather events occur.

### Managing Late blight

While Australian growers should be reassured by these findings, our strain of the disease can still be destructive given the right

weather conditions. When these weather patterns occur, growers should be vigilant for signs of Late blight, as it can take hold of a crop very quickly.

“It’s quite spectacular because you can see it happening in a matter of days,” Dr de Boer said.

“The classic symptoms are a blotch or a blight on the leaves, and these symptoms can develop overnight.”

Generally, Late blight risk is highest during mid to late summer. Fungicides are the most effective method of control and growers should consult chemical representatives and agronomists to find out what they can use. Protective fungicides should be applied on young crops when there is a high disease risk, while

a curative fungicide that can enter the plant tissues (systemic or translaminar) should be applied when the disease has been detected in a grower’s crop or in nearby crops. A good target spot spray program will also help to protect mature crops from infection by the Late blight pathogen.

“We have the tools to control the disease,” Dr de Boer confirmed.



For more information, please contact Dr Dolf de Boer at [dolf.deboer@ecodev.vic.gov.au](mailto:dolf.deboer@ecodev.vic.gov.au), (03) 9032 7324 or 0409 854 536.



Typical Late blight symptoms on potato foliage.

## Late blight symptoms

- Small, pale green patches with tiny, irregular necrotic (dead) flecks, usually near the tips or edges of the leaves where dew is retained the longest.
- Patches begin to enlarge into dark brown to black blotches that are water-soaked or greasy in appearance, with a dry, dead centre.
- Under humid and cool conditions, delicate white chains of sporangia (spore bodies) are produced at the margins of the lesions, particularly on the underside of the leaf, giving the edge of the lesions a cottony appearance.
- The lesions can expand down the petioles and stems, destroying the whole potato plant.

## Acknowledgement

The recent testing of Late blight strains was made possible thanks to an Australian Centre for International Agricultural Research (ACIAR) and Victorian Government funded project in Papua New Guinea, which linked the management of potato Late blight in that country with an improved preparedness for the possible incursion of new strains of *Phytophthora infestans* into Australia.

A project assessing the risk of incursion of new strains into Australia and the development of an incursion management plan was funded by the potato industry, the Victorian Government and Horticulture Innovation Australia Limited (HIA).



with Scott Mathew

## Reducing the risk of Pink rot infection this season

DURING A RECENT VISIT TO TASMANIA, THE PROCESSING POTATO CAPITAL OF AUSTRALIA, SYNGENTA TECHNICAL SERVICES LEAD SCOTT MATHEW DISCUSSED THE CHALLENGES SURROUNDING THE USE OF IN-FURROW FUNGICIDES AND, IN PARTICULAR, PINK ROT MANAGEMENT.

### What are the conditions suitable for Pink rot development?

Pink rot (*Phytophthora erythroseptica*) survives in the soil by producing oospores, which can survive for up to seven years. In the presence of potatoes, the oospores germinate to produce mycelia and sporangia. However, if the soil becomes wet, sporangia can germinate directly or release swimming spores called zoospores; these zoospores respond to chemicals released by the potato plant and swim toward potato roots.

Pink rot can infect roots, stolons and underground stems of the plant. Once infected, the Pink rot pathogen can grow into the tuber, although initial infection occurs during the early stages of tuber development. The disease becomes most apparent during harvest (this is sometimes referred to as a latent infection). Later in the season, tubers can also become infected directly through eyes or lenticels during prolonged periods of high soil moisture.

Pink rot develops rapidly at soil temperatures between 10°C to 30°C; the optimal temperature for infection is 25°C.

### What are some of the management strategies I can put in place to reduce the risk of a Pink rot infection?

No single control measure will provide effective control of Pink rot. The severity of Pink rot can be managed using an integrated approach that combines the use of host resistance, cultural and chemical control methods.

Some key Pink rot control management strategies include:

- Reduce the amount of inoculum in soil by removing crop debris. You can also cull volunteer potatoes from the field.
- Control weed hosts. For example, controlling some nightshade species in non-potato crop years will help reduce Pink rot carry over.
- In irrigated potato production, water management is critical in areas where Pink rot is a threat. Overwatering can lead to increased Pink rot incidence; this may be especially true late in the season.
- Avoid disease-favourable conditions at harvest. Tubers with immature skins are more

susceptible to wounding during harvest operations, and wounded tubers are more susceptible to Pink rot infection.

- Apply Metalaxyl-M at planting time, then follow up by applying Metalaxyl-M early in the growing period. Research has shown that this combination provides effective control of Pink rot.

For the best protection against Pink rot infections, it is advised to follow a program of applying a Ridomil Gold 25G treatment at planting, followed by consecutive foliar applications of Ridomil Gold MZ at the four and six week interval after planting. Following this program offers potato growers the best protection against Pink rot infections.



Pink rot disease becomes most apparent during harvest.



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

# Feeling the heat: Potato yield suffers under high temperatures

WITH SUMMER UPON US AND TEMPERATURES RISING, NOW IS A RISKY TIME OF YEAR FOR POTATO CROPS. AN INTERNATIONAL STUDY EXAMINING THE EFFECTS OF HIGH TEMPERATURE ON TUBER YIELD AND PHYSIOLOGICAL DEFECTS FURTHER HIGHLIGHTS THE IMPORTANCE OF OPTIMAL TIMING WHEN PLANTING AND IRRIGATING. *POTATOES AUSTRALIA* REPORTS.

It is well-known that potatoes grow best in cooler climates, with high temperatures causing an array of physiological changes that can lead to a devastating reduction in economic yield.

Recent research from Poland has studied the specific effects of high temperatures on potato plants at various stages of development. This is particularly relevant to growers in Australia as we enter the hottest part of our year, where there is potential for high temperatures to negatively affect potato crops.

The research was led by Poland's Department of Potato Agronomy, Plant Breeding and Acclimatization Institute researcher Krystyna Rykaczewska, who said that the high temperatures occurring in Europe and the rest of the world made this a particularly relevant issue.

"High temperatures of above 30°C occur in Europe and the rest of the world every few years during the growing season. It is important because there is a significant reduction in yield," she explained.

## Research method

The study looked at six different potato cultivars, placed under temperatures of 35°C during the day and 25°C during the night. Plants were subjected to high temperature conditions during one of three consecutive 15 day test periods to analyse the effect of high temperatures at different stages of growth.

Half of the plants were watered at a level close to optimal, while the other half remained without irrigation. This allowed the team to see how high temperatures affected potato plants in both drought conditions and optimal soil moisture conditions.

A control group consisted of potato plants grown under optimal or close to optimal conditions throughout the entire season. This provided the researchers with a comparison to view the magnitude of the effects on the test group.

## Findings

The study confirmed the commonly-held view that potato yield is significantly reduced by

extreme heat. The effect was strongest when the plants were subjected to high temperatures in the first test period, while they were still in an early stage of growth. When the high temperature conditions were delayed until the second or third test period, the reduction in yield lessened.

Importantly, the size of the final yield of tested plants was also significantly dependent on soil moisture during the period of high temperature. In other words, plants that were subjected to both high temperatures and drought conditions produced significantly fewer tubers than plants that were subjected to high temperatures and good soil moisture.

While it is good news that growers can minimise the damaging effects of high temperature on yield simply by ensuring optimal irrigation, another finding from the study showed that high temperature combined with good soil moisture can cause an increase in tuber physiological defects and deformations. These include elongated tubers,

bottlenecks and second growth (chain tuberisation).

"High temperature, especially under good soil moisture, causes most of the physiological defects in tubers," Ms Rykaczewska confirmed.

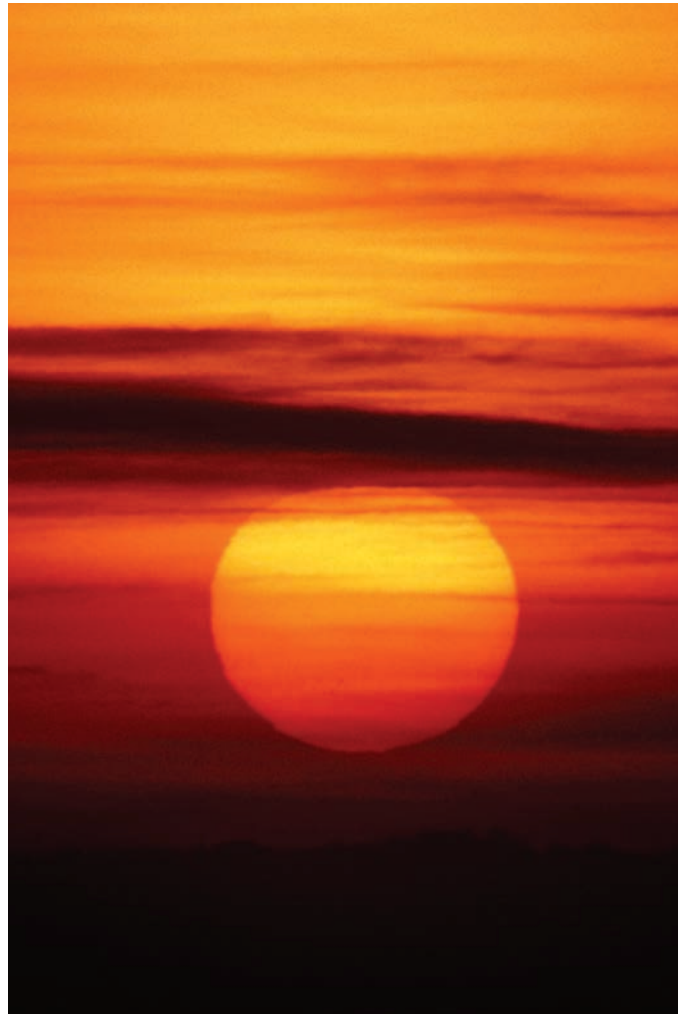
## Surviving the heat

What does this mean for growers? Firstly, timing is key. If possible, try to plant early in the season, so that tubers have a chance to develop before the most extreme temperatures hit. Secondly, ensure your potatoes are well-irrigated during the hotter months, but be careful not to over-irrigate.

Ms Rykaczewska noted that further research is necessary to determine which potato cultivars are most resistant to high temperatures. If this information is established, it would help growers in hotter regions to make decisions about which varieties to grow.



For more information, contact Krystyna Rykaczewska at [k.rykaczewska@ihar.edu.pl](mailto:k.rykaczewska@ihar.edu.pl).





## Q&A Young grower profile



Brayton,  
New South Wales

**Name:** Luke Bartlett

**Age:** 33

**Location:** Brayton, New South Wales

**Works:** Luke's Potatoes and Pumpkins

**Grows:** Dutch Cream, Sebago, Kennebec, Pontiac, Nicola, Kipfler, Pink Fir Apple, Desiree, King Edward, Otway Red

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

My grandparents John and Lorraine Ryan grew spuds and pumpkins since 1960. In the early '80s my grandfather stopped growing spuds due to health issues but kept growing pumpkins. All I can remember is helping them pick pumpkins! I was living in Queensland until

I had a phone call from my family about coming back and working on the farm.

### What is your role in the business?

I am the business owner, so I cover all areas. Everything from start to finish including paddock prep, cutting seed, planting, spraying, top dressing, irrigating, harvesting and grading.



## How would you describe your average day at work?

We do mixed farming so I could be looking after sheep and cattle one day, then managing potato and pumpkin crops or making hay the next. It keeps me busy with early starts and late finishes. There's no 9am to 5pm job on the farm; you just keep going until the job is done.

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

I love the challenge of growing a quality crop, but the greatest reward is seeing a great crop going up the digging web – that brings a smile to my face. It's a very satisfying feeling when you have produced a great crop; it looks like a million dollar picture when you get it right.



Photography by Nathan Frazer Photography



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

Input costs – everything has gone up so much except potato prices for the grower and it seems like there's less demand as well. Weather is a big challenge, as we have no control over it. As growers we put so much money and time into a crop and deal with so much risk of losing it to Mother Nature.

Demand is also a challenge – you produce a great crop and then you can't move it. As Australian growers, we should be able to grow enough produce and still have the phone ringing off the hook for more.

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

Marketing different potato varieties. People think a spud is just a spud when it's not. Marketing is such an important role – that's what sells the product. Potatoes are such a versatile vegetable and they can be used in so many different ways.

I think more advertising of recipes in magazines, papers, cooking shows (*MKR*, *MasterChef*, etc.) is needed. If they market it spot on, I'm confident that can bring the demand back for growers and that's what we all want.

We can produce such a great product in Australia; we just need the industry to push more

on marketing and seeing how other countries push their product. There are a lot of varieties out there that look great but taste terrible – we need to get rid of them and concentrate on the ones with flavour.

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

You have to make it appealing for them, such as creating better return for what you put in. That should give the younger generation more encouragement to take up a job in the industry. I can't see how a young person could buy a farm these days and have a crack at it, as there's so much cost involved in getting set up.

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

I love my golf, so giving the golf pro circuit a go or being a superintendent at a golf course. Otherwise, anything with a challenge.

## Where do you see yourself in five years?

Still trying to grow a top quality product for a better price and demand. Hopefully improving in all areas in my business – it's very competitive out there.

# The psychology behind spud sales: A wrap-up of the Potato Tracker project

THE POTATO TRACKER CONSUMER RESEARCH PROJECT WAS RUN BY COLMAR BRUNTON ACROSS A 12-MONTH PERIOD, WITH A NEW WAVE OF RESEARCH RELEASED EVERY MONTH. *POTATOES AUSTRALIA* LOOKS BACK ON THE HIGHLIGHTS OF EACH WAVE, GIVING GROWERS THE PERFECT CHANCE TO IDENTIFY MARKET OPPORTUNITIES FOR THEIR BUSINESSES.

## Wave 1: September 2014

The initial Potato Tracker report provided a range of useful insights about consumer perceptions of potatoes. The findings showed that 66 per cent of consumers purchased potatoes because they were easy to prepare and cook with. Awareness of potato varieties was high, with Desiree, Dutch Delight, Pink Eye and Pontiac being the varieties of which consumers were most aware.

While consumers intended

to keep purchasing potatoes in future, the main barrier to buying more was that they 'consume enough for their needs'. One of the most encouraging findings was that potatoes were considered to represent good value for money, particularly washed and brushed potatoes.

## Wave 2: October 2014

Findings from the October report showed that the future for potatoes was strong, with



younger age groups having a particularly high propensity to purchase more potatoes. Given the large proportion of respondents purchasing both washed and brushed potatoes, the report identified the opportunity to differentiate between the two and promote the benefits of each.

Diet concerns and weight management were a key barrier to purchase, opening up the possibility of educating consumers on the health benefits of potatoes. It was also reported that consumers want information on the suitability of different varieties for different cooking styles, as well as country of origin and best before dates. The report recommended that growers work with manufacturers, packers and retailers to communicate this information to consumers.

## Wave 3: November 2014

During November, findings indicated that 55 per cent of consumers believed that they already consumed enough potatoes for their needs. They also lacked confidence in cooking with multiple varieties of potato. The report suggested that these barriers to purchase could be reduced by

providing recipe ideas and cooking instructions, as well as new occasions for eating potatoes.

Another interesting finding was that purchase and consumption was more popular in older age groups and 'empty nesters'. However, there was also an opportunity to increase appeal to younger, busier consumers by offering more pre-prepared formats and mixed vegetable bundle packs.

## Wave 4: December 2014

This wave of research found that 63 per cent of consumers purchased potatoes because they enjoyed the taste. Potatoes were consistently served with carrots, peas and broccoli, providing an opportunity to explore packaging options and bundle these vegetables together, perhaps pre-cut.

Perceptions that some foods were more suitable for families were shown to be on the rise. Given this, potatoes could be marketed to families by clearly labelling the number of serving sizes on packaged potatoes.

Meanwhile, the report found that gluten free and other health trends were continually on the rise and recommended an investigation into new processing opportunities for potatoes, as there may be





higher demand for potatoes as a substitute for wheat and gluten.

### Wave 5: January 2015

Potato purchases fell this month, while consumer complaints doubled. An exploration into quality issues and checks across the supply chain was advised to minimise this problem.

It was also found that consumers prefer an all-purpose variety of potato, rather than specific varieties that are suited to certain cooking methods. The report recommended investigating which potatoes were most versatile and promoting these accordingly.

The report indicated that triggers to purchasing potatoes differed across various consumer segments and therefore a multi-layered approach should be used. For example, brands and retailers could capture attention in-store and on packaging using multiple messages.

### Wave 6: February 2015

The main barriers to purchasing potatoes this month revolved around quality issues and expense. The report recommended reassurance in-

store that despite aesthetic and superficial defects, the quality of the potato was not affected.

The barrier of expense was shown to be primarily driven by consumer perceptions rather than an increase in retail price. In response, retailers could highlight best value options, such as loose and brushed potatoes.

This month also showed a decrease in potato freshness perceptions. As well as ensuring that regular quality checks were in place and enforced, the report signalled an opportunity to educate consumers on correct storage methods to extend shelf life.

### Wave 7: March 2015

This month showed a decrease in consumer satisfaction and a rise in the belief that they consumed enough potatoes for their needs. The report suggested that consumers might be running out of ideas for potatoes, sparking an opportunity to promote a 'potato of the month' that is particularly good for seasonal dishes.

Also noted was a sizable increase in the importance of provenance to consumers. Packaging and signage in-store could emphasise that potatoes were grown in Australia, along

with further information on the state or region.

Another point of interest was the finding that consumers throw out 15 per cent of what they buy on average. This could be minimised by communicating storage information and best before dates, as well as ideas about how consumers can use the whole potato when cooking.

### Wave 8: April 2015

This wave of research showed that there has been an increase in 'quick meals' that incorporate potatoes, which is reflected in their popularity as an accompaniment to a meal rather than a key ingredient.

The report also indicated that the continued growth of Asian culture within Australia was likely to be contributing to the substantial decrease in tradition and habit as drivers to purchasing potatoes. The report recommended that potato versatility in multicultural cuisines should be highlighted.

The topical issue of sugar was raised in the report as likely to be having a positive impact on earlier barriers to purchase, such as weight/diet and health concerns. Packaging and signage should clearly call out 'no sugar', along with 'low fat' and other health claims.

### Wave 9: May 2015

The May report signalled an opportunity to promote larger formats of pre-packaged

potatoes. It was found that 2kg pre-packaged bags are the ideal size and format, followed by 1kg and 5kg+ bags. This could be done by highlighting the value for money and the bag's perfect size for the whole family.

Although consumers like the value of larger pre-packaged bags, a barrier to purchase was the difficulty of carrying such bags. The report recommended investigating alternative packaging options, such as boxes with handles or sturdy hessian bags with handles.

Another barrier to purchasing larger bags of potatoes was perceived shelf life. To encourage consumers to buy larger bags, the length of freshness could be clearly communicated on the packaging, including best before dates.

### Wave 10: June 2015

The June report focused on four distinct segments of consumers in the marketplace. Particularly relevant to the industry is a segment of consumers called 'Wholesome Habits' who eat potatoes routinely and are not looking for anything new, and another called 'Eager Explorers' who are interested in the taste, colour and texture of potatoes and are open to experimentation.

The industry could increasingly target 'Wholesome Habits' consumers by providing alternative meal occasions outside of dinner time, to make potatoes more relevant throughout the day. Formats could convey value for money



and minimise wastage.

'Eager Explorer' consumers could be attracted with in-store displays that promote freshness and quality. These consumers are perfect targets for promoting multiple types of potatoes with different skins and flesh colours. The report recommended clear communication of the flavour profiles of different varieties and providing new and different recipe ideas outside of Australian cuisine.

### Wave 11: July 2015

In the July report, it was found that the winter months corresponded with an increase in potato purchasing frequency and consumption. This momentum could be maintained by highlighting potatoes as a regular part of the family meal, as well as introducing consumers to its versatility with alternative winter cooking styles.

Results also showed that consumers were most willing to pay more for washed, loose potatoes or organic, loose potatoes. This preference can

be supported by highlighting the convenience and reduced preparation times of washed potatoes and the perceived health and sustainability benefits of organic potatoes.

### Wave 12: August 2015

Results from this wave showed that 90 per cent of consumers purchased potatoes in the last month. Consumers were found to choose specific potato varieties primarily based on price, which was likely due to a lack of awareness of the flavour, freshness and cooking attributes of different varieties. To develop and expand this area, it was recommended that consumers should be educated on the differences and benefits of potato varieties.

Through other research, Colmar Brunton found that the consumer's dominant barrier to purchasing potatoes – consuming enough for their needs – was intrinsically linked to wastage and a desire to limit this waste. To combat this, recipe ideas could be provided that use the whole potato. Consumers could also be

informed about the additional flavour and nutritional benefits of eating the skin.

Another recommendation to reassure consumers who are concerned about wastage was to ensure that best before dates and estimated freshness are clearly provided on packaging or in-store.



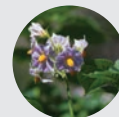
The Potato Tracker project took place over a 12-month period and has now concluded. Full copies of all reports can be found on the AUSVEG website at [www.ausveg.com.au/potatoes/potato-consumer-research.htm](http://www.ausveg.com.au/potatoes/potato-consumer-research.htm).

This project was funded by Horticulture Innovation Australia Limited using the Fresh Potato Levy and funds from the Australian Government.

Project Number: PT13015



## CALENDAR of events



**12-14 January 2016**

### Potato Expo 2016

**Where:** Las Vegas, United States

**What:** The 8th annual Potato Expo will attract more than 2,000 growers, suppliers and experts to discuss emerging trends in the potato industry. The expo will feature educational programming, networking opportunities and a trade show highlighting the latest products and services for potato production, storage and distribution.

**Further information:**

[www.potato-expo.com](http://www.potato-expo.com)

**22-25 February 2016**

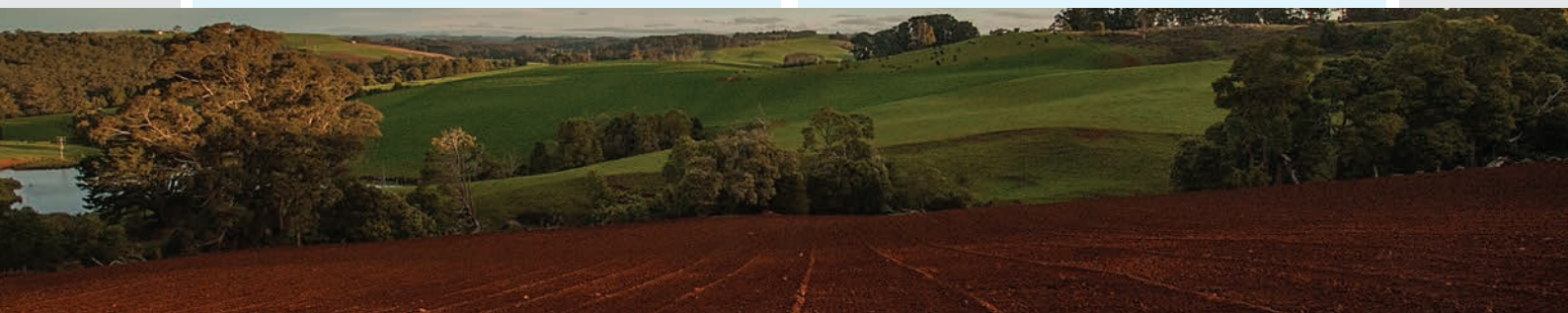
### Potato D.C. Fly-In

**Where:** Washington D.C., United States

**What:** Each year, potato growers and industry leaders from across the United States visit Washington as part of the National Potato Council's Potato D.C. Fly-In. This allows participants to better understand and advocate for the industry's most pressing policy priorities.

**Further information:**

[www.nationalpotatocouncil.org](http://www.nationalpotatocouncil.org)







**2015 Reader Survey**

1. What sector of the industry do you represent? Please tick:

- Grower (seed)     Grower (fresh)     Grower (processed)  
 Processor     Supply chain     Researcher  
 Government     Industry official  
 Other \_\_\_\_\_

2. What is your age group? Please tick:

- 18-24     25-34     35-44  
 45-54     55+

3. What crops do you grow?

\_\_\_\_\_

\_\_\_\_\_

4. Which sections of *Potatoes Australia* are of most interest to you? Please tick:

- News     R&D Articles  
 International R&D     Young Grower Profiles  
 Grower Profiles     Feature articles  
 Industry Columns     New products/Advertisements

5. On a scale of 1-5, how useful do you find the R&D articles included in *Potatoes Australia*, with 1 being "Not useful at all" and 5 being "Extremely useful". Please tick:

- 1     2     3     4     5

6. Does R&D content in the magazine influence the way you run your business? Please tick:

- Yes     No

7. How many people read your copy of *Potatoes Australia*?

\_\_\_\_\_

8. Where do you get your information from? Please tick:

- Industry publications     Consultants  
 Processing company     Independent agronomists  
 Resellers     Government organisations  
 Grower groups     Other \_\_\_\_\_

9. Do you have any comments/suggestions regarding the magazine?

\_\_\_\_\_

\_\_\_\_\_

10. Are you interested in receiving information regarding the 2016 National Horticulture Convention? Please tick:

- Yes     No



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Stu Jennings

Hello again,

It's hard to believe that it is nearly Christmas.

Sounds like spring has been a mixed bag for growers across the country. I know October was one of the driest we've seen in our part of the world – at least in my relatively short time on the farm. Hopefully the rain falls a bit during summer and things turn around. We are still better off than some places that haven't seen consistent rain in years, so I hope the recent rain brought some relief to those areas that had been missing out and that good falls are not far away for everyone.

Picking the weather can be tough as a farmer, and the guys who get paid to do it don't seem to get it right as often as I'd like them to either! Farming in general can be like trying to predict the weather – a bit hit and miss. Apart from actually guessing what the weather might do, every year we put in our crops full of optimism, with all the ingredients that years of experience and research have taught us to achieve an outcome. Most of the time it works, but on the odd occasion, Mother Nature steps in and sends a heat wave, or 200mm of rain, or maybe a virus sweeps into an area.

At the end of the day, we gamble on everything we do – and hopefully you win more times than you lose. At times it can be a bit overwhelming, but we push on to feed the world as best we can.



There always seems to be new information being delivered that helps to combat the challenges we face, including Mother Nature. A great way to hear about the latest information, technology and tools is to get along to the grower meetings that are held in your area – or of course once a year at the National Horticulture Convention. Sharing our experiences as an industry helps to drive improvements and participating in these meetings allows you to learn what is new and contribute to future change.

Participation at these meetings is increasing as more growers realise that they provide a significant benefit. I challenge all YPP – and OPP – to keep an eye and ear out for any opportunities to join in and to get along to the next one near you. You may be pleasantly surprised.

As we sign off on 2015, I hope everyone has a safe and happy Christmas and that the next year is good to all of us. Take time with your family and friends in the days and months ahead. Be grateful for the good times and keep the faith when things are tough – and remember, if you think you have nothing to be grateful for, check your pulse!

Cheers,

Stu

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To potato people everywhere, young and old, we wish you and your families a safe and Merry Christmas. We look forward to growing with you in 2016.

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