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February/March 2015

Susie Daly

Rising from
the ashes

The Front Line

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AUSVEG Chairman and CEO messages



Geoff Moar

AUSVEG Chairman

For many years now, AUSVEG has worked tirelessly in its role as the Peak Industry Body for Australia's potato growers. Whether it's ensuring that growers benefit from focused investment in industry-funded R&D or advocating to government to ensure growers get a fair go, AUSVEG is keenly aware of the numerous issues facing the Australian potato industry and will continue fighting to ensure the industry reaches its full potential.

After 40 years of working as a potato grower, and more recently in my role as Chairman of AUSVEG, I can truly appreciate the benefits that a strong and healthy representative body can bring to the industry. I am proud to say that AUSVEG has and will continue to deliver strong results to potato growers in a range of areas.

For instance, AUSVEG has previously raised concerns about the potentially-devastating Zebra chip disease entering Australia through imported fresh New Zealand potatoes. After AUSVEG put together a powerful campaign to highlight the potential threat, these imports remain on hold, and we'll continue fighting hard to keep it that way.

More recently, hundreds of potato growers from around the country have been given opportunities to attend, and benefit from, the ongoing series of workshops in the Potato Industry Extension Program. These events have provided invaluable insights into an array of new R&D, and exposed growers to leading experts and researchers dealing in everything from disease management to crop nutrition and efficient farming practices.

Another key priority for AUSVEG is ensuring that

the ongoing investment in industry-funded R&D provides real results to potato growers and allows their businesses to remain profitable and internationally competitive. Proof of this lies in the latest Potato Grower Success Stories publication, which accompanies this edition of *Potatoes Australia*.

This booklet, published annually, looks back on recent successful R&D developments and profiles six Australian growers whose businesses have directly benefited from research funded through the National Potato Levies. With topics ranging from biofumigation to diagnostic tests for soil-borne pathogens, there is no limit to the value that industry-funded R&D can provide to a potato grower's business.

Finally, AUSVEG recognises that collaboration with other horticulture industries will play an important role in developing the Australian potato industry into the future. This is why we have teamed up with Apple and Pear Australia Limited (APAL) to bring you the National Horticulture Convention, Trade Show and Awards for Excellence at Jupiters Gold Coast from 25-27 June.

I encourage all potato growers to take advantage of this unique opportunity to network not only with your peers, but also with growers from other industries, as you never know where such an introduction might take you and your potato growing operation.

Geoff Moar
Chairman
AUSVEG



Richard Mulcahy

AUSVEG Chief Executive Officer

In what can only be described as an historic moment for the Australian potato and vegetable industries, AUSVEG has announced that it will partner with Apple and Pear Australia Limited (APAL) to create the 2015 National Horticulture Convention, Trade Show and Awards for Excellence. The event, which will be held at Jupiters Gold Coast from 25-27 June, is expected to attract well over 1,400 delegates and feature an exclusive line-up of speakers and events that will prove invaluable to growers across the country.

This partnership has been many months in the making and we are excited that plans are officially underway to make this event the biggest and best in Australian horticulture to date. While we will stay true to many of the successful aspects of previous AUSVEG Conventions – there will be speaker sessions on industry issues that matter as well as opportunities to network with friends and peers from across the country and overseas – APAL will also contribute its own delegates and speakers from which all attendees can benefit.

Of course, the ever-popular Trade Show will once again feature, allowing delegates to meet face-to-face with some of the industry's most significant players. More than 75 per cent of booths have already been sold in our larger Trade Show for 2015. The three-day Convention will then wrap up with the Awards Night and Gala Dinner, where both industries will recognise and celebrate the growers and industry members who have made their marks in various ways.

The 2015 delegate brochure is now available on the AUSVEG website for potato growers and industry representatives to

benefit from early bird discounts and find out more about what's in store for attendees at the National Horticulture Convention. Both AUSVEG and APAL will continue to keep you updated as details are confirmed in the lead-up to 25 June.

AUSVEG is confident that this unique partnership will allow potato growers to access an array of valuable information that can be used to benefit your businesses and perhaps inspire you to make 2015 your most successful year yet.

In other industry news, the latest wave of results from the Potato Tracker project are now available. As we have seen from previous reports, this project provides plenty of inspiration for potato growers to come up with new ideas on their farms, whether it's in terms of farm productivity or presentation of the end product. After all, creativity and innovation are the lifeblood of this industry's future, and we have already witnessed potato growers throughout the country incorporating innovations into their businesses through their constant desire to keep the potato industry evolving.

We hope this edition of *Potatoes Australia* and upcoming events such as the 2015 National Horticulture Convention, provide the inspiration you need to strengthen your growing operation and, ultimately, the wider Australian potato industry.

Richard J Mulcahy
Chief Executive Officer
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AUSVEG Chairman

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AUSVEG CEO

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Welcome to the first edition of *Potatoes Australia* for 2015 – we hope that the year is already off to a great start and that it's a good one for your businesses.

There's no doubt that this year will be an exciting one, particularly following the announcement that AUSVEG will team up with Apple and Pear Australia Limited (APAL) to create a brand new National Horticulture Convention, Trade Show and Awards for Excellence in June this year. More information about the unique opportunities that this strong partnership will bring to the nation's growers can be found on page 11.

Potatoes Australia also had the chance to catch up with Susie Daly, an innovative potato grower from Tasmania, for our grower profile this month (page 8). After bushfires came dangerously close to her family's property near Dunalley just over two years ago, Susie explains how the life-changing event forced them to rethink where their business was heading and, in the process, come up with some new and innovative ideas.

Our young grower in this edition is Dan Parker, who has been the sole owner and operator of Yeoview Potatoes in Victoria for the best part of a decade (page 26). Dan shares with us his challenges on the

farm, as well as his experiences as an attendee of the 2014 Potato Industry Leadership and Development Mission to the United States and Canada. For more information about the first leg of this mission, turn to page 30.

In the R&D sphere, a joint project between potato researchers based in Tasmania and Kenya forms the focus of the article on page 12. With rising temperatures and changing rainfall predicted in the near future, this project used a new model to help determine future potato production in the African nation and island state of Australia, with interesting results.

This edition also reinforces that four heads are better than one, following the successful collaboration between researchers in the UK, Australia, South Africa and New Zealand on a project that aims to improve the reliability and interpretation of DNA-based diagnostic tests on potato blemish diseases (page 28).

Meanwhile, this edition of *The Front Line* takes a look at the Potato Industry Biosecurity Plan and recaps the eight most prominent pests that could devastate the local industry if they were to arrive on our shores (page 14). Also, the second instalment of discussions from the 2014 SCRI Zebra Chip Conference in Oregon is featured on page 22 and the latest results from Waves 3 and 4 of the Potato Tracker project are analysed on page 20.

Our regular Potato Industry Extension Program column takes a look back on the most successful aspects of the program last year (page 24), while we provide an update on the latest developments in the processed potato industries, both here and abroad (page 16).

Finally, the potato industry has bid farewell to former AUSVEG Board Director Dr Elizabeth Duncan, who retired at the end of 2014. We speak to Dr Duncan about her time with the company on page 18.

Enjoy the read.



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Susie Daly

**FRONT COVER:**

Susie Daly

Photograph by Loic Le Guilly



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Rising from the ashes

SURVIVING A NATURAL DISASTER CAN MAKE ANYONE REASSESS THEIR SITUATION. FOR POTATO GROWER SUSIE DALY AND HER FAMILY'S FARM, A LUCKY ESCAPE FROM THE DEVASTATING BUSHFIRE THAT TORE THROUGH THE SMALL TOWN OF DUNALLEY IN TASMANIA TWO YEARS AGO FORCED THEM TO TAKE STOCK AND APPROACH THE FUTURE WITH A NEW SENSE OF DETERMINATION. DIMI KYRIAKOU SPEAKS TO SUSIE ABOUT SOME OF HER EXCITING POTATO PROJECTS THAT, IF IT WEREN'T FOR THE BUSHFIRE, MAY NEVER HAVE COME TO LIGHT.

January 2013: The scene at Dunalley, a small coastal town in southeast Tasmania, is one of incredible tragedy and loss.

The postcard views of Marion Bay – a famous backdrop to the annual Falls Festival – are hidden behind a curtain of smoke and haze; the tranquil blue of the sky is replaced by a suffocating amber that only results from the fuel of a bushfire.

Many will remember the images of devastation that plagued the state just over two years ago. Hundreds of properties and livestock in the area were lost during the fire, and there were few locals left unscathed.

One of the luckier residents was Susie Daly and her family, who have been growing potatoes in the Dunalley region for the last 25 years. Although the bushfire came dangerously close to the boundary of Daly's Gourmet Potatoes, a well-organised attack and a little bit of luck saw the fire skirt the property.

"My husband has been in the fire brigade so we were very organised. All of our fences got burnt and there was a lot of rebuilding, but we're over the hump," Susie recalls.

Having seen their neighbours' devastation and witnessed first-hand how close they came to losing everything, it was no doubt a sobering time for the

Daly family. But, as with any event of this magnitude, it was also a turning point.

"We sat down together after the bushfire and realised we were very lucky to get out of it like we did. It makes you think and bring things forward in a way. It pushed me to get to where I am, because otherwise I would probably still be plodding along," she adds.

Winning friends with salad

These days, Susie does anything but plod along as she continues to put Daly's Gourmet Potatoes on the map with some innovative projects. The seed of creativity was first planted with the launch of the 'Purple Gem' potato in 2011, a heritage variety with a distinct purple flesh, which proved to be popular among consumers.

Not one to settle for a single good idea, Susie has since turned her attention to the 60 tonnes of potatoes that would otherwise go to waste because of their aesthetic appearance. Her latest projects aim to not only find a use for these leftover potatoes, but simultaneously bring in some extra dollars for the business.

"After we wash our potatoes there are some that have blemishes on them. There's nothing wrong with the actual potato that one peel of the slicer won't remove. We thought about

what we could do with them and I believed there was a need for a gourmet potato salad," Susie explains.

With the help of local food scientist Hazel MacTavish-West, the Dalys have created a new range of gourmet potato salads using their leftover Nicola spuds. The family rents the commercial kitchen at a local school to prepare the salads (using local ingredients of course), before packing and marketing the products.

"My first goal was to use our waste potatoes but my second goal was to create some employment in the local town; our saw mill burnt down during the bushfire and we lost a lot of jobs in the process. So it value-adds our waste product and it's been good for the Dunalley community," she says.

"We're trialling different things, including some salmon patties. We want to show people what you can do with potatoes – the options are endless."

Next stop: Vodka

Fortunately, these waste potatoes are not only destined for salads.

"At the moment we are having a go at making some potato vodka. Traditionally, they still make potato vodka in countries like Poland, Russia and England," Susie says. "We've had to build all the machinery but we've finally got that last



piece of machinery delivered and we'll be running some test batches."

Susie hopes that the location of Daly's Gourmet Potatoes – halfway between Hobart and Port Arthur – will tantalise the taste buds of some 200,000 thirsty tourists that pass by Dunalley every year.

"It will be good to tell the story of our area and our farm and the tourists may be looking to take something special back home with them," she says.

"People want to know where their food comes from. We've had bucket loads of people come through our potato shed and they're absolutely fascinated. They buy a potato but they don't know the work that goes into it."

A team effort

As a mother to four young adult children, Susie believes the prospect of distilling vodka from waste potatoes is a sufficient hook to keep them interested

in the family business. Susie and her husband Gerard are currently working on a succession plan that will leverage their children's passion for tourism and harness their ideas for the budding business.

"We work as a company and it's been really good to sit down with the kids and plan for the future with them. They are interested in the tourism side of things because we've got a great coastal farm and they're interested in the vodka production, as they would be – they're at the right age!" she laughs.

"Diversifying into these different projects actually makes it a really good proposition for the kids to be involved in. It's a real team effort here with my husband and our staff. We want to plan to make sure the staff has a future as well."

With so many different projects on the go, there is never a dull moment in Susie's life.



Susie and her son, Nathan.





“There’s lots of variety – I come to work every day and I can be making potato salads and then meeting with a farmer to look at where we should put our vodka distillery. It’s so versatile and I’ve never learnt so much in the last 12 months as I’ve learnt in my whole life.”

“It’s something that becomes addictive. I would never have thought leaving school that I’d end up being a potato farmer – it wasn’t on the bucket list at that stage. But I enjoy the challenges.”

Industry working together

Another lingering challenge on Susie’s list is to promote the inherent health benefits of potatoes, particularly to younger generations. At the moment, this is being achieved with a little help from Diabetes Australia.

“I’m trying to do a lot of different things to get people to be aware of how healthy potatoes are for you. My main potato at the moment is Nicola, which has been picked up by

Diabetes Australia as one of the three recommended potatoes for diabetes,” she explains.

“As potato growers, we need to be telling everybody about the benefits of potatoes, particularly because they’ve got a really bad perception that they’re fattening. But they’re not – they’ve got more potassium than a banana.

“I definitely think we need to be, as an industry, working together. We’ve missed a generation in a way – my parents eat meat and veg every night but my son’s generation has grown up around fast food.

We need to try to find a more convenient way for them to buy vegetables.”

By the sounds of it, a potato farm that produces potato salads and potato vodka on the side is the perfect place to start.

“The potato industry has got a really bright future, we just need to promote it and give the consumer what they want. We grow the best potatoes in the world here. We won’t be able to feed the rest of the world, but we’ll be able to give them top end produce. And that’s just the beginning.”

AUSVEG and APAL unite for National Convention double header



Richard Mulcahy

Dr Michele Allan

Two of the largest horticulture bodies will unite this year to create the National Horticulture Convention, Trade Show and Awards for Excellence.

AUSVEG confirmed in January that it would be joined by Apple and Pear Australia Ltd (APAL) to host the event, which will take place at Jupiters Gold Coast from 25-27 June. The National Horticulture Convention will be the largest event in Australian horticulture to date, with an anticipated 1,400 delegates to descend on the sunny Queensland coast in mid-2015.

Both organisations fully support the joint venture, with AUSVEG CEO Richard Mulcahy and APAL Chair Dr Michele Allan saying that they are “delighted” that AUSVEG and APAL would be joining forces at the event.

Industry on show

The National Horticulture Convention will continue to showcase the very latest

technology and R&D in the industry at the biggest Trade Show to date. With the two largest sectors in horticulture being represented, exhibitors will have the unique opportunity to target growers across multiple sectors at the one event.

As the Trade Show is already over 65 per cent sold, companies are encouraged to register their interest as soon as possible to avoid missing out on an exhibition space.

Meet and greet

Delegates will be able to enjoy all that has been on offer at the Convention in previous years, as well as the chance to network and converse with their apple and pear-growing colleagues. With multiple industries present, the Convention will provide opportunities for delegates to learn from the experiences of colleagues involved in other commodities.

In addition, an array of international and domestic

experts on a variety of industry topics will present to delegates on their visions for the future, alongside practical methods growers can employ on-farm to help grow their businesses.

Some fun away from the farm

A number of events will also return for the National Horticulture Convention, including the NextGen young grower event, the Women in Horticulture event and the ever-popular Friday theme night, which last year transported delegates to a tropical Hawaiian paradise.

Kicking off with the Welcome Reception and Trade Show Opening on the evening of Thursday 25 June, attendees will be treated to a fun-filled three day program, which will conclude with the celebrated National Awards for Excellence on Saturday 27 June. The Awards ceremony will be an

opportunity for the vegetable, potato, apple and pear industries to reflect on the successes of the past year and look ahead to the bright future of Australian horticulture.

All members of the Australian horticulture industry are encouraged to attend what will be the premier event on the 2015 calendar. The delegate brochure has been released and growers, researchers and members of the supply chain are urged to register now to ensure they are eligible for early bird discounts and to secure accommodation.

i For more information, contact AUSVEG. Phone: (03) 9882 0277 Email: convention@ausveg.com.au, or visit www.ausveg.com.au/convention.

Predicting potato production in Tasmania and Kenya

VARIABILITY IN TEMPERATURE, RAINFALL AND OTHER ENVIRONMENTAL FACTORS ARE EXPECTED TO HAVE AN EFFECT ON THE YIELD OF POTATO CROPS, WITH THE GREATEST IMPACT IN LOW LATITUDE COUNTRIES. IN LIGHT OF THIS, A NEW POTATO MODEL WAS RECENTLY PUT TO THE TEST IN TASMANIA AND KENYA TO HELP PREDICT FUTURE POTATO PRODUCTION IN BOTH OF THESE COUNTRIES.

Given that the potato is consumed by over a billion people on a daily basis, it is imperative for industry to ensure that production levels remain at their highest despite the many environmental challenges that lie ahead.

Tasmania and Kenya formed the focus of a recent research project that aimed to predict how future environmental events could have an impact on potato production in these two countries. In Tasmania, potato represents 70 per cent of the vegetable industry's total value and nine per cent of the state's total agricultural value. It is also the second most important food crop in Kenya.

It is most likely that a modest increase in temperature will benefit potato production in high latitude countries, while it is expected to have an adverse effect on potato yields and potato growth and development in low latitude countries such as Kenya. An increase in temperature may also attract a higher incidence and increase the severity of potato pests and diseases in both Kenya and Tasmania.

Essentially, a potato crop

demands a mean temperature of 18-20°C and 500-700mm of water to produce optimum yields. However, a reduction in the total annual rainfall is predicted in north-west Tasmania, where the majority of the state's potatoes are grown. The mean annual temperature is also expected to increase by about 2.9°C in 2100.

On the other side of the world in Africa, the temperature is expected to increase by more than 2°C in the same timeframe. The high-rainfall events are also projected to increase, with wetter rainy seasons, fewer droughts and a higher number of extreme wet events.

Project approach

Developed in the 1990s in Australia, the Agricultural Production System Simulator (APSIM) model simulates the biophysical process in farming systems. Given this, researchers enlisted the help of a new potato model to more accurately predict the effects of nitrogen fertiliser levels, sowing dates, plant density and irrigation in potato crops in Tasmania and Kenya.



A watchdog mini weather station was on each trial site in Tasmania.

The APSIM-potato is a new crop module that was incorporated into the APSIM Plant.net Framework in 2011. It predicts yield, nitrogen uptake and water use efficiency of potatoes on a daily basis in response to inputs of daily weather data, soil characteristics, crop parameters and management events.

This is the first time the APSIM-potato model has been tested and compared under either Tasmanian or Kenyan conditions. Researchers conducted field trials using

a range of cultivars in both countries to calibrate and evaluate the model, and determine if it can realistically predict potato phenology and yield under the local conditions.

Field experiments in Tasmania

In Tasmania, plots were established within potato fields in the 2012/13 crop season and all the management events were carried out by the grower. There were four different on-farm plots

and each plot measured 21 metres long by 10 rows wide. At each site, certified seed sets of two commercial potato varieties (Russet Burbank and Moonlight) were planted.

Data was collected on a weekly basis starting at 50 per cent emergence. For each sequential harvesting, two adjacent plants were harvested from six locations within the on-farm plot, giving a total of 12 plants per plot. Growth and development parameters were recorded immediately after harvest, before the plants were separated into leaves, stems and tubers. The roots were discarded.

Fresh weights of each of the 12 separated plants were recorded before a sub-sample was taken for nitrogen analysis. The dry weight of each component was determined by oven drying the sub-samples for nitrogen analysis. Where samples were too bulky, they were sub-sampled before drying. Tubers were washed, sub-sampled in regard to tuber size distribution, cut longitudinally and diced before drying.

Soil samples were also collected after harvesting and used to determine soil hydraulic properties. At all the sites, daily weather data was recorded using on-site data loggers.

Field experiments in Kenya

In Kenya, experiments were conducted during the 2013 "short rains" and 2014 "long rains" season at The University of Nairobi, Kabete farm. The experimental design for the 2013 short rains (April to June) was a split plot, with two water levels (supplementary irrigation and rain-fed) as the main plot and three genotypes as the sub-plot. A randomised complete block design was used in the 2014 "long rains" (March to July) experiment with three nitrogen levels (22.5kg/ha, 63kg/ha and 103kg/ha) and four replicates.

In both experiments, certified sprouted tubers or mini-tubers of three genotypes were used: Shangi (a farmer's selection variety) and two thermotolerant advanced International Potato Centre clones from lowland



Harvested potatoes in Tasmania at Mark Clement's farm.



Final harvest at TIA Forthside farm in Tasmania.

tropics virus resistance (LTVR). Tubers were planted 10cm deep, 0.75m by 0.3m, and two outer rows were established as border rows. Each sub-plot included six rows of 12 plants.

The results are in

This was the first time the APSIM-potato model was used in Tasmanian potato crops, which have well defined and fairly reliable growing conditions. However, the production system in Kenya is quite different in terms of climate and genotypes and, given the variable and harsh conditions at the trial site in Kenya, calibration of the model is likely to be challenging.

In general, the model better predicted the date for emergence and the vegetative

stage than the later growth stages for Russet Burbank at both the Sassafras and Lower Barrington sites in Tasmania. For the six different phenological growth stages, there was a difference between predicted and observed data, ranging between 4-27 days and 2-35 days for Russet Burbank at the Sassafras and Lower Barrington trial sites respectively. However, the model does require some adjustment to improve its performance on-site.

In addition to understanding the influence of changing weather conditions on potato production, model outputs about planting dates, irrigation strategies, nitrogen fertilisation and other aspects will be useful for both industry and research in the future.

This project was funded by AusAID and the Tasmanian Institute of Agriculture (TIA) with additional support from the International Potato Centre (CIP) in Nairobi. The researchers also thank Simplot Australia, participating potato growers and Hamish Brown for technical advice on the APSIM-potato model.



Potato is the second most important food crop in Kenya.



Eight potential pests that every Australian potato grower should look out for

IN THIS EDITION OF THE FRONT LINE, AUSVEG BIOSECURITY AND SPECIAL PROJECTS COORDINATOR DR JESSICA LYE GIVES AN OVERVIEW OF THE POTATO INDUSTRY BIOSECURITY PLAN AND PROVIDES BACKGROUND INFORMATION ON EACH OF THE EIGHT PESTS THAT HAVE BEEN IDENTIFIED IN THE DOCUMENT AS BEING OF HIGH OR EXTREME RISK TO THE AUSTRALIAN POTATO INDUSTRY IF THEY WERE TO ARRIVE ON OUR SHORES.

For those of you who may not be familiar with the concept, an Industry Biosecurity Plan identifies procedures that can be put into place to reduce the chance of pests reaching Australian growing regions. It also outlines key pest threats to the industry, risk mitigation plans, identification and categorisation of exotic pests and contingency plans.

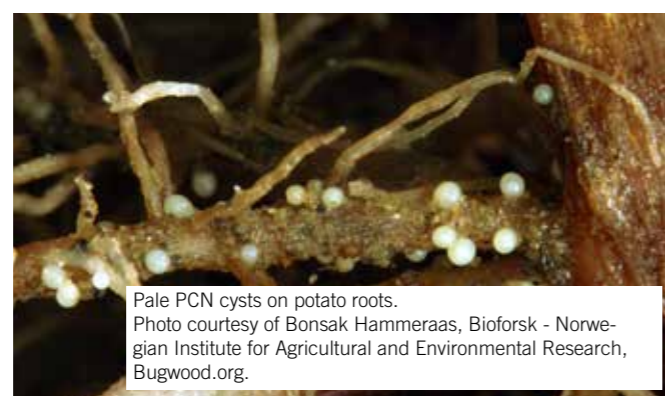
An Industry Biosecurity Plan for the potato industry was first released in 2007 to outline High Priority Pest (HPP) threats. In November 2013 a revised version of the plan was released (version 2.0).

It is important that growers recognise exotic pests and, in particular, HPPs that can potentially have a serious impact on the potato industry. Surveillance and early detection are important to combat the introduction of exotic plant pests, diseases and weeds, and can be enhanced by awareness and reporting from growers and the public.

There are eight HPPs listed in version 2.0 of the Industry Biosecurity Plan for the potato industry.

1. Pale potato cyst nematode

Potato cyst nematodes (PCN) are made up of two species – the Pale PCN (*Globodera*



Pale PCN cysts on potato roots.
Photo courtesy of Bonsak Hammeraas, Bioforsk - Norwegian Institute for Agricultural and Environmental Research, Bugwood.org.

pallida) and the Golden PCN (*Globodera rostochiensis*). Both species feed on potato roots and can cause significant damage that affects yield and marketability of tubers. A heavy nematode infestation may cause yellowing, wilting, death of foliage and patches of poor growth in the field.

The Pale PCN is found in many potato growing areas around the world, including New Zealand. So far, there has been no detection of this nematode in Australia.

2. Golden potato cyst nematode

The Golden PCN (*Globodera rostochiensis* – Ro1 strain) was first found in Western Australia in 1986 and was subsequently found in Victoria in 1991. Since

then, the Golden PCN (Ro1 strain) has become established in parts of Victoria, although it has been eradicated from Western Australia.

Exotic strains include Ro2, Ro3, Ro4 and Ro5. These strains, which are considered to be highly pathogenic, have not been detected in Australia.

Both Pale and Golden PCN can hatch several hundred offspring and the ability of cysts to survive in soil for up to 30 years makes PCN difficult to eradicate. As such, routine surveillance for signs of nematode infection; sourcing of high-health status seed potato from reliable suppliers; and inspection of machinery and equipment for soil and plant debris before they are brought on-farm is important for restricting PCN entry to growing areas.

3. Late blight

Late blight (*Phytophthora infestans*) is famous for being the main causal agent of the mid-19th century Irish Potato Famine. It is a fungus-like pest that causes one of the most destructive diseases of potatoes worldwide. Over the past several decades, new and highly adaptive strains of the pathogen have been detected overseas.

While outbreaks of Late blight have been detected and controlled in Australia, the *Phytophthora infestans* A2 mating type and newer strains of the A1 mating type have not been detected in Australian growing regions. Mating between the A1 and A2 strains result in the production of robust spores that can survive in soil for long periods of time. The offspring of the A1/A2 mating type are also extremely adaptable, which has impaired the effectiveness of global control strategies, such as planting of resistant cultivars.

4. Potato spindle tuber viroid (PSTVd)

PSTVd, which has evolved into numerous strains, is currently present in Asia, Africa, North America, South America, Europe and New Zealand. As a seed-borne pathogen, this viroid has the potential to travel long distances in seed consignments.

While fast implementation of biosecurity measures has so far ensured containment of PSTVd incursions, past incursions have prompted stringent border security measures in the form of onshore testing regulations for the viroid in imported potato propagative material.

Aggressive PSTVd infections result in reduced plant size, unusual tuber shape, reduced tuber size, thin stems and leaf distortion, and can reduce yield by as much as 64 per cent. Therefore, using planting material from reliable sources and ensuring there is traceability on purchased seed supplies are important measures that can help keep Australian potato growing regions PSTVd-free.

5. Potato virus Y (PVY)

While PVY is found in most Australian potato growing areas, more aggressive strains of the virus have been discovered overseas in recent years. PVY⁰, PVY^N, PVY^C and PVY^{NTN} are the most common strains. PVY^{NTN} is associated with Potato tuber necrotic ringspot disease and has been detected in eastern Australia, as have PVY⁰ and PVY^C. However, many other exotic PVY strains occur overseas and have not yet been found in Australian growing regions.

Spread of PVY between plants is aided by aphid vectors or mechanical transmission on tools and machinery. As PVY

can spread extremely quickly between plants, good farm hygiene and regular surveillance for virus symptoms is extremely important.

6. Bacterial wilt (Brown rot)

Bacterial wilt, which is also known as Brown rot, southern wilt, sore eye or jammy eye on potato, is caused by a soil-borne bacterium (*Ralstonia solanacearum*) that infects plant roots through sites of injury or nematode infection. Irrigation water, flood waters and contaminated soil are common methods of bacterial transmission. Symptoms include wilting of the leaves at the end of the day with recovery at night, and a pale ooze in the eyes and heel end of the potato.

There are three strains of *Ralstonia solanacearum* worldwide, with the most widespread type in Australia being race 3/biovar II. It is important for growers to be aware that differences in host range, pathogenicity and adaptability occur between strains, which emphasises the need to protect growing regions from exotic strain incursions.

7. Tomato-potato psyllid

While the Tomato-potato psyllid (*Bactericera cockerelli*) has an extensive host range, solanaceous plants such as

potatoes and tomatoes are preferred targets. The psyllid is currently found in North and Central America, and in 2006 it was detected in the Auckland region of New Zealand. There have been no detections of this psyllid in Australia.

This insect has been shown to severely reduce yield and crop quality. Most life stages of the psyllid (adult and nymph) can impact on plant health by injecting a salivary toxin into plant tissue during feeding. The result – a condition called psyllid yellows – leads to reduced growth, stem death and chlorosis of leaf tissue.

This pest is also of concern because it is a vector of the bacterium *Candidatus Liberibacter solanacearum*. Concurrent feeding by the psyllid and infection by *Candidatus Liberibacter solanacearum* causes Zebra chip disease.

8. Zebra chip disease

The bacterium *Candidatus Liberibacter solanacearum* is associated with Zebra chip disease, which results in small and misshapen tubers. When sliced open, affected tubers display dead cells, represented by stripes of discoloration in the tuber flesh. This pattern becomes more distinct when sliced potatoes are fried, making these products unmarketable.

Between 2008 and 2011, New Zealand potato producers

experienced losses of NZ\$120 million associated with the presence of the Tomato-potato psyllid and the bacterium causing Zebra chip.

While the Tomato-potato psyllid is not present in Australia, it is not known if endemic psyllids can carry the bacterium between plants. Therefore, to reduce the risk presented by this bacterium, border biosecurity measures were recently introduced for testing and heat treating imported carrot seed as there is potential for this pathogen to be seed-borne in carrots. It is important to be vigilant for early warning signs of this pest as it is difficult to eradicate once established.



The Potato Industry Biosecurity Plan can be found on the AUSVEG website: www.ausveg.com.au

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

Early reporting increases the chance of cost-effective control and eradication.

1. Zebra chip disease. Photo courtesy of Whitney Cranshaw, Colorado State University, Bugwood.org 2. Bacterial wilt. Photo courtesy of Clemson University - USDA Cooperative Extension Slide Series, Bugwood.org 3. Potato spindle tuber viroid disease. Photo courtesy of USDA Agricultural Research Service Archive, USDA Agricultural Research Service, Bugwood.org 4. The Tomato-potato psyllid. Photo courtesy of Eugene E. Nelson, Bugwood.org

Processed potatoes: The latest developments

IN THIS ARTICLE, *POTATOES AUSTRALIA* PROVIDES AN OVERVIEW OF SOME OF THE LATEST NEWS FROM BOTH THE LOCAL AND INTERNATIONAL PROCESSED POTATO INDUSTRIES.

A new way to buy hot chips

Hot chips at the push of a button may become a renewed reality, following the announcement of a new commercial hot chip vending machine.

For the last five years, Western Australian potato processor Bendotti Exporters has been working alongside the Hot Chips Company, based in Perth, on the project. The new vending machine will transfer frozen chips to a fryer, with a goal to cook them in two minutes. At the moment, the prototype takes two minutes and 20 seconds.

However, it is not the first time such an invention has been made available in Australia, as the concept dates back to the early 1980s with the 'Mr French Fry' vending machine offering. The only difference is that the 21st century invention will undertake the first commercial roll-out of the product in every Australian state by Christmas.

Bendotti and its affiliate company, WA Chip, will be the sole supplier of all vending machines nationally. As a result, the processor is expecting production to double at its Manjimup facility in Western Australia over the next five years. *Source: ABC Rural*

Potato chips still the go-to snack for Aussies

Potato chips continue to hold the title of Australia's favourite snack, according to findings from market research organisation Roy Morgan Research.

In an analysis of the nation's most popular snacks, researchers found that Australian tastes are trending more towards savoury than sweet. The humble potato chip was the preferred hunger-killer for 41 per cent of Australians in an average seven-day period, surpassing other popular snacks including nuts (37 per cent) and savoury biscuits/crackers (32 per cent).

Interestingly, potato chips have defied overall trends and remained popular as a snack among Australian consumers for several years. In 2013, a third of Aussies who participated in a Roy Morgan Research study said they had recently eaten potato chips.

It must be the unbeatable quality of Australia's processed potatoes that has them hooked.

Source: Roy Morgan Research

Modified potato gets stamp of approval

A new type of potato that can resist bruising and may be a healthier option for frying has been approved for commercial planting by the United States Department of Agriculture.

The potato has been genetically engineered to reduce the amounts of a potentially harmful chemical, acrylamide, which can be produced when the potato is fried. The potato can also resist bruising, a favourable characteristic that could help both growers and processors avoid the heavy losses that occur when potatoes become unusable due to bruising during harvesting, shipping or storage.

The new type of potato is one of a new wave of genetically modified crops that aim to provide benefits to both growers and consumers. The biotech tubers were developed by the J.R. Simplot Company based in Boise, Idaho.

Source: The New York Times

French fry shortage eases in Japan

Imagine walking into a fast food outlet and not being able to buy French fries, or only having a smaller portion available for purchase.

That was the scenario for countless consumers in Japan over the last few months, after shipment delays in the United States – Japan's main supplier of the side serve – sparked somewhat of a French fry fiasco.

The situation was so dire that one restaurant chain put plans in place to airlift 200 tonnes of chips from the United States.

The reason for the panic was a dockworker's dispute on the United States west coast, which caused a months-long slowdown of supply and held up potato imports to Japan.


The shortage also meant McDonald's Japan had to start rationing its most popular side serve and on 17 December 2014, removed its large French fry serving from the menu. Japanese consumers had to make do with an order of small fries with their meal.

As the crisis continued, McDonald's Japan was forced to import 1,000 tonnes of American potatoes via air cargo and ship 1,600 tonnes from the United States east coast, as this area was unaffected by the industrial dispute. While this may seem like a substantial amount to some, it was a far cry from the usual 120,000 tonne order placed to the United States every year, which supplies the franchise's 3,094 restaurants in Japan.

The fast food chain has since announced that it would resume the normal French fry servings from 5 January.

According to Japan's Ministry of Agriculture, Forestry and Fisheries data as reported by Bloomberg, the country imported 186,000 tonnes of potatoes from the United States in 2013. It forms around 75 per cent of the country's total purchase of international spuds.

Source: Bloomberg



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Pioneering the Future

Dr Elizabeth Duncan: An invaluable industry representative

AFTER SIX YEARS OF DEDICATED SERVICE TO THE VEGETABLE AND POTATO INDUSTRIES, DR ELIZABETH DUNCAN HAS RETIRED FROM THE AUSVEG BOARD OF DIRECTORS. SHE SPEAKS TO *POTATOES AUSTRALIA* ABOUT HER TRIALS AND TRIUMPHS DURING HER TIME WITH THE ORGANISATION.

Dr Elizabeth Duncan may have made an instrumental contribution to the vegetable and potato industries as a Skills-Based Director on the AUSVEG Board, but that hasn't stopped her from supporting growers at a grassroots level as well.

"I visited my local supermarket recently and saw a hand-written sign advertising some kiwifruit as a product of Australia. I called over the manager – he knows me by now – and I showed him the stickers on the fruit that said 'Product of New Zealand'. He asked the staff to change the sign immediately," she laughs.

Pointing out such discrepancies may seem like common sense as they have an immediate impact on the local community, but what Dr Duncan has brought to the wider Australian vegetable and potato industries during her six years on the AUSVEG Board and as Chair of the AUSVEG Finance and Audit Committee extends far beyond that one simple action.

A fortuitous meeting

With a wealth of practical business, commercial and financial experience to her name, Dr Duncan has worked

in senior management roles within an array of financial institutions and, more recently, as a consultant across a variety of industries.

"Basically I am a problem solver. If there is something that can't be done, I will find a way of doing it," Dr Duncan says.

A tree change to the country saw Dr Duncan turn her hand to university lecturing, with a focus on corporate governance and commercial accountability. One day a colleague who was working with AUSVEG at the time, casually mentioned that the company should have somebody taking care of their auditing and accounting and suggested that Dr Duncan look into it.

As they say, the rest is history – Dr Duncan was appointed to the AUSVEG Board in December 2008.

New beginnings

Dr Duncan set to work bringing AUSVEG back into an organised financial state and set up an Audit Committee in order for the company to move forward, ahead of the appointment of current CEO Richard Mulcahy, who joined the peak industry body in 2009.

"When I was initially

“ I hope that our Australian vegetable and potato industries continue to be recognised for what they are: industries that give much higher quality than any other in the world. ”

- Dr Elizabeth Duncan.

introduced to the company, what struck me was the complete lack of accounting skills and any sort of ethics and governance within the organisation. Initially I could see the need to get somebody in straightaway to sort out the financial records," she explains.

"Once the books were balanced, the next step was to work with the board to source a CEO who would bring a strong ethical requirement: somebody who saw that it wasn't just the strict letter of the law that was important, but who could take the organisation to the next level."

Dr Duncan said a pivotal

point for the organisation was the 2009 appointment of Mr Mulcahy, who she credits with playing an instrumental role in helping the organisation get back on track.

"Richard really brought the enthusiasm as well as the skills to market and develop the organisation. He also has an incredible ability to hire staff that have the same kind of high values and ethics he does. That's made all the difference," Dr Duncan explains.

With the day-to-day running of the business under the watchful eye of Mr Mulcahy, Dr Duncan was free to help the board refocus on what should be its

primary role.

"While there were experienced growers on the board who had a lot of agricultural knowledge, they didn't really have much knowledge about running a company or what boards should actually do. I think one of the things I helped the board to see was not to delve into the minutiae and the operating activities of the organisation, but to operate at a more strategic level and provide guidance for the organisation from that perspective," she says.

Horticultural highlights

Looking back, Dr Duncan notes that one of the highlights during her six years on the board was seeing the organisation transform into a positive and profitable entity that collaborates effectively with the wider industry.

"How far the company has developed is directly proportional to the commitment

of all the staff and directors. We have a much more mature and resilient organisation now," she explains.

"As a director, you can trust the information given to you by

staff and can have confidence that it is correct. That means a lot to a director because if you can't rely on the information you are given, it makes it really hard to perform your role."

The development of the

National Convention and potential export markets has also been pleasing to witness.

"The Conventions have grown from an amateur job to a professionally run event. That's a credit to everyone involved," Dr Duncan notes.

"I hope that our Australian vegetable and potato industries continue to be recognised for what they are: industries that give much higher quality than any other in the world. It would be lovely to see the export markets develop further and for Australia's growers to be known for producing the best quality."

The next step

As Dr Duncan prepares to steer her career towards being a full-time professional skills-based director, there is no doubt that AUSVEG would not be where it is today without her knowledge, assistance and guidance. Her ability to implement rigorous financial and governance protocols, commercial expertise and adapt her skills to the benefit of the vegetable and potato industries has been instrumental

Photography by Sally Brown.



Dr Elizabeth Duncan speaks at the Women in Horticulture event in Cairns in June 2014.

More Potato Tracker results released

EFFORTS TO MONITOR AND GAUGE CONSUMER PERCEPTIONS OF POTATOES CONTINUES, WITH THE THIRD AND FOURTH WAVE OF POTATO TRACKER REPORTS NOW AVAILABLE. THIS PROJECT AIMS TO PROVIDE RELEVANT CONSUMER RESEARCH TO THE POTATO INDUSTRY, AND ALLOWS GROWERS TO EFFECTIVELY IDENTIFY OPPORTUNITIES TO IMPROVE THEIR BOTTOM LINE. FELICITY POWELL REPORTS.



The latest results from Potato Tracker Waves 3 and 4 are in, highlighting that potatoes are a favourite for Australian families. In particular, mashed potatoes are in style, with mashing the most popular way for consumers to prepare their spuds.

The Potato Tracker project investigates Australian consumers' purchasing habits and perception of potatoes. The project releases regular new insights and is conducted by market research organisation Colmar Brunton, keeping potato growers abreast of current consumer trends. The project also allows growers to identify potential market gaps and tailor their offerings accordingly.

Wave 3 highlights

Consumers have been enjoying hearty serves of mashed potato, according to Wave 3 of the Potato Tracker project. The proportion of consumers preparing mashed spuds at home increased from 72 per cent to 76 per cent in the past month. While mashing is the most popular method, there was also an increase in popularity of roasting, steaming and stewing. Consumers also identified that

they use potatoes primarily when cooking Australian, British and Indian cuisine. Weekday dinners were identified as the main consumption occasion, with an increased propensity towards quick meals.

According to the report, potatoes are perceived as less healthy than other vegetable types. To counter this, health benefits and functional claims should be promoted on packaging, according to the research. Appealing to health-conscious consumers is key – the potato industry should work together to investigate the potential for low GI potato varieties that would appeal to these consumers.

Consumption frequency remains high at 14 occasions per month. On average, potatoes are purchased over three times per month, slightly down from Wave 2 results. On average, 2.6kg of potatoes are purchased per month, with recalled last spend at \$4.60.

Overall, consumers perceive washed and brushed potatoes to be good value for money. More than half of the consumers surveyed purchased these two types; Desiree, Kennebecs and Dutch types were most regularly purchased.



Wave 4 highlights

According to Wave 4, the latest wave of consumer research by Colmar Brunton, Australian families are driving demand for potatoes. Fifty-one per cent of respondents say they bought potatoes because they were enjoyed by their whole family, which is a jump of 11 per cent compared to responses from the first Wave of the study.

Based on this finding, researchers say the potato industry should be encouraging families to purchase more potatoes by clearly labelling the number of serving sizes on packaged potatoes. In-store flavour offerings should also be highlighted – something that is mild will most likely appeal to the whole family.

Potatoes are most consistently eaten with carrots (73 per cent of the time), peas (55 per cent)

and broccoli (50 per cent).

This finding highlights the opportunity to explore packaging opportunities to bundle these vegetables together, whether whole or pre-cut. Packaging that incorporates these vegetables for use in 'meat and three veg' meals will appeal to older consumers who regularly cook traditional Australian cuisine.

Over the last three months there have been close to 3,000 products launched globally that contain potato as an ingredient, which is on trend with previous months. The key regions for products launched were Europe and the Asia Pacific, with products typically presented as snack foods or meals.

Innovative products created in Australia included beer battered shoestring chips, potato sticks with paprika flavour and a gluten-free tomato and herb savoury muffin mix.



The Potato Tracker project will continue with a Wave of new findings released each month. Full copies of each report can be found on the AUSVEG website at www.ausveg.com.au/potatoes/potato-consumer-research.htm. This project has been funded by Horticulture Innovation Australia Limited (HIA) using the Fresh Potato Levy and funds from the Australian Government. Project Number: PT13015

Zebra chip conference part 2: Further research provides valuable insights to industry

FOLLOWING ON FROM LAST EDITION'S UPDATE ON THE LATEST RESEARCH PROJECTS PRESENTED AT THE 2014 SCRI ZEBRA CHIP CONFERENCE IN OREGON IN THE UNITED STATES, AUSVEG BIOSECURITY ADVISER DR KEVIN CLAYTON-GREENE DISCUSSES THE ADDITIONAL KEY FINDINGS FROM THE EVENT.

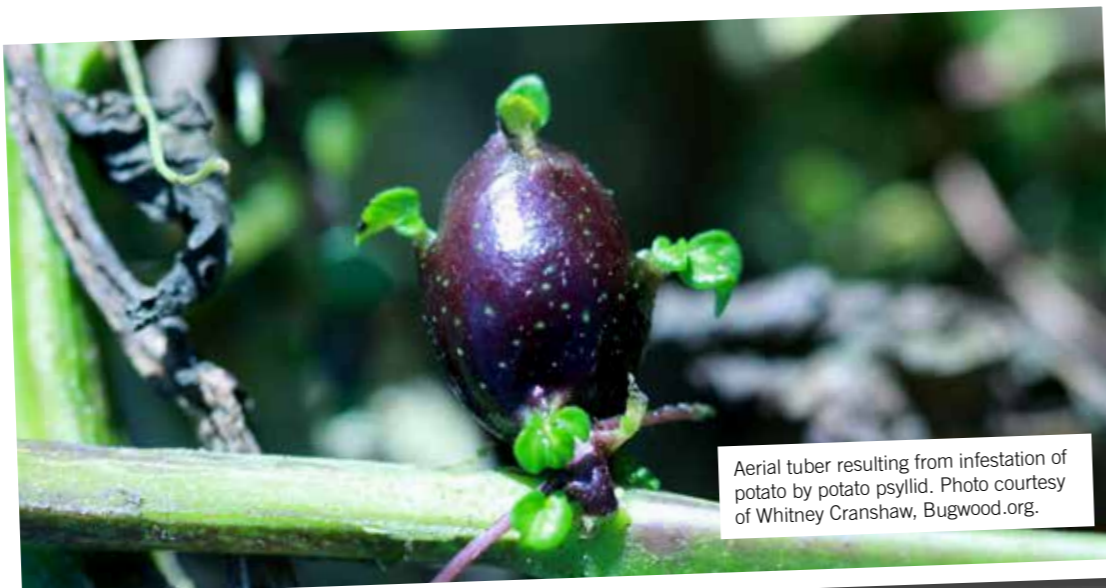
Covering R&D projects from the United States, New Zealand and Europe, the 2014 SCRI Zebra Chip Conference was an opportunity for representatives throughout the global industry to discover the latest progress that has been made in the area of Zebra chip disease.

The disease is caused by a bacteria known as *Candidatus Liberibacter solanacearum* (Lso). While multiple strains of the bacteria have been identified and are carried by at least three species of psyllids, strain A – which is carried by the Tomato-potato psyllid (TPP) – is of particular threat to potato growers in Australia as this is the strain that is found in New Zealand. The United States has three strains – A, B and C – all of which cause Zebra chip in potatoes.

Psyllid control

During the conference, it was highlighted that an Integrated Pest Management (IPM) program can be built for TPP. There are also some promising biological options (such as terpenoid-based *Chenopodium* extract) that may soon achieve a label status and become available on the market. However, it was noted that the use of chemicals such as insecticides needs to be managed properly to avoid the potential build-up of aphid resistance to the product used.

One of the most important research findings that surfaced during the conference was that broad spectrum chemicals such as pyrethroids were not found to be effective in the fight against



Aerial tuber resulting from infestation of potato by potato psyllid. Photo courtesy of Whitney Cranshaw, Bugwood.org.

TPP. In almost all experiments conducted, the application of these chemicals resulted in an increase in TPP numbers in crops. This is thought to be the result of both its effect upon beneficials and, interestingly, the possibility that it may stimulate females to lay eggs.

It was clear that Australian potato growers are extremely lucky that so few pests currently threaten their crops, compared with other parts of the world. Growers in the United States, for instance, often deal with up to 10 pests in any given season. Furthermore, if Australian growers collect an unknown pest, it is advisable to store it at a cool temperature (preferably in the freezer) as soon as possible to preserve its body parts and DNA to enable more accurate identification.

Additional findings

Research involving different strains of Lso and the interaction with their TPP hosts was also

covered at the conference. Some results supported the view that strain A, which is found in New Zealand potato crops, is not as severe as in the United States, where strain B is also present.

Studies on TPP feeding also show that it takes approximately three to four hours for 50 per cent of plants to be infected with Lso. Therefore, insecticides that discourage settling for longer periods have an important role to play in reducing infection.

Discussions at the conference also focused on research in resistance breeding. Over 1,000 selections have been screened to date and, despite some promising cultivars, varietal screening has so far shown that they are still some way off commercial availability and have yet to be proven for other agronomic and cooking attributes. While varieties vary significantly in how they both respond to Lso and how they express Zebra chip, no resistance has been found to date within the existing suite of

potato varieties.

Finally, the topic of genomics was also touched on during the conference, as groups in New Zealand and North Dakota have been co-operating on sequencing the genome of the A and B strains of Lso. It is hoped that this approach will ultimately lead to an understanding of how the *Liberibacter* becomes, or is, a pathogen. It will also help identify strategies for resistance or blocking of pathogenicity.

Ultimately, this work will lead to better methods for pest and disease identification so that incursions can be dealt with correctly. This is of critical importance for biosecurity in particular, as the misidentification of a pest at the incursion stage can have very significant and severe consequences.



For more information on Zebra chip disease, contact AUSVEG:
Phone: (03) 9882 0277
Email: info@ausveg.com.au



with Scott Mathew

IN THIS EDITION OF ASK THE INDUSTRY, SYNGENTA TECHNICAL SERVICES LEAD SCOTT MATHEW ANSWERS SOME OF THE QUESTIONS SURROUNDING THE EFFECTIVE APPLICATION OF CHEMICALS AS A WAY TO ACHIEVE POTATO DESICCATION BEFORE HARVEST.

As the processing potato season is again drawing to an end, potato desiccation prior to harvest becomes a hot topic. Desiccating a potato crop two to three weeks prior to harvest offers growers many management advantages, including assisting the harvest process and improving tuber maturation.

Several desiccation methods (including mechanical) are commonly used, however most growers have questions surrounding the use of chemicals. Below are some of the common questions that arise at this time every year.

Can SPRAY.SEED® (paraquat and diquat) or a straight paraquat-based product be used to desiccate potato vines prior to harvest?

No, paraquat-based products are not registered in Australia for this purpose. The SPRAY.SEED label carries a specific warning: "DO NOT use SPRAY.SEED 250 for potato haulm desiccation." The only chemicals registered for this purpose in Australia are diquat 250g/L (REGLONE®) and 60g/L carfentrazone-ethyl (Spotlight Plus).

Does chemical desiccation with REGLONE cause vascular browning?

Very rapid vine desiccation can, on occasion, cause a discolouration or browning of the tuber vascular ring, regardless of the method used. It is a myth

that this problem is specifically related to the use of REGLONE.

Stem End Browning (SEB) can be a feature of any rapid crop destruction in dry conditions when temperatures are high. There is a greater risk of SEB developing in situations where immature crops have a higher water demand, there is a high soil moisture deficit and when application is made during high temperatures when tuber dehydration is likely to be at its highest point.

How do you know if conditions are suitable to desiccate the potato vines?

Syngenta has developed a SMART test for growers – this is a practical and simple way to assess when the crop is at the right stage to apply REGLONE. There are four steps to the SMART test, but in short it involves "hands on" soil moisture tests to assess suitable soil conditions up to 5cm below the tuber set, then relating that information to the condition of the vines (i.e. senescing versus green and vigorous). Once a positive SMART test is determined, growers should treat the crop within 24 to 48 hours.

How do growers ensure that they get good results when using REGLONE for vine desiccation?

As with the use of any chemical, always read the label directions before use. Getting a good result from REGLONE has some critical elements, but it comes back to attention to detail in terms of the product

application, environmental conditions and the condition of the vine itself.

Choose the correct rate to match the amount of green material you want to desiccate (i.e. the more vine present, the higher the rate needed), or consider a split application. For the best results, an even and complete coverage and good penetration of the spray into the target foliage is necessary. Aim for a fine to medium spray quality with a minimum of 100L of water per hectare. Use higher water volumes (200–300L/ha) to obtain coverage of dense haulm.

Do angled nozzles aid the use of REGLONE for desiccation?

Among other benefits, the theory and practice behind using angled nozzles is to provide greater coverage and spray penetration into a broad leaf canopy. Angled nozzles such as the Syngenta Potato Nozzle (which has a 30 degree angle nozzle tip) is a XR 110 04 nozzle. Originally designed for fungicide use, it has proven to be very effective for use with REGLONE when desiccating vines. Use the Syngenta Potato Nozzle alternated forward and back along the boom for best results, with a recommended water volume of 200L/ha.



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 or email *Potatoes Australia*: info@ausveg.com.au. Please note that your questions may be published.

PIEP celebrates 2014 and gears up for another productive year



Participants at the 2014 Potato Field Day at the Atherton Tablelands in far north Queensland.



DAFWA researcher Brenda Coutts outlines the important research she has undertaken on Potato virus Y.



Tasmanian potato growers Darren Long and Gerard Daly at the 2014 Potato Field Day.

WITH 2015 NOW IN FULL SWING, WE LOOK BACK ON LAST YEAR'S HIGHLIGHTS OF THE POTATO INDUSTRY EXTENSION PROGRAM AND PROVIDE A SNEAK PEEK OF WHAT POTATO GROWERS CAN EXPECT FROM THE PROGRAM IN THE COMING MONTHS.

It was a big year for the Potato Industry Extension Program in 2014, with grower engagement continuing to increase across the country and attendance figures at Regional Workshops and Field Days growing and breaking previous program records.

Participation in Regional Workshops regularly reached capacity, with speaker line-ups and content proving to be exciting. Topics featured at the workshops covered a range of areas, including outcomes from the Australian Potato Research Program Phase 2 (APRP2) and levy-funded research; international research from the UK Potato Council; and presentations from growers sharing their personal success stories after implementing new practices.

Workshop highlights

Research scientist from the South Australian Research and Development Institute (SARDI) Mr Michael Rettke presented at a number of events around Australia, including grower workshops in Berrigan, New South Wales and Warragul, Victoria. Mr Rettke spoke about the development of the soil-borne disease testing service, PreDicta Pt, and how it can be used to indicate the risk of a number of pathogens, including Powdery scab and Root-knot nematode.

Another highlight of 2014 was the opportunity to hear from Ms Claire Hodge, Technical Executive at the UK Potato Council, who presented at the workshops in Mt Barker, South Australia and Pemberton, Western Australia.

Based in Scotland, Ms Hodge has worked for a number of years in the British potato industry, not only in extending R&D outcomes to local growers, but also in conducting her own research. Ms Hodge presented findings and recommendations from one of her research projects into damage minimisation; she also gave an overview of the UK potato industry and compared this with Australia.

Ms Hodge also accompanied AUSVEG representatives on a number of farm visits in South Australia and Western Australia and was thrilled to see Australian growers producing high-quality potatoes in such varying conditions, much different to that of the UK.

The feedback from growers who attended Regional Workshops has been brilliant.

Many noted that they were inspired to not only further investigate methods of improving their own growing operations, but were also provided with some direction on the areas they should concentrate on.

The Potato Industry Extension Program's ability to bring the growing community together has also been praised, with potato growers enjoying the social aspect of workshops and networking with their peers.

Growers have a Field Day

Another highly successful event held by the Potato Industry Extension Program in 2014 was the inaugural Potato Field Day. This event put the potato growing regions in the Atherton Tablelands on show and was held in conjunction with the 2014 AUSVEG National

Convention, Trade Show and Awards for Excellence.

The Potato Field Day saw a busload of growers and industry representatives visit farms and growing operations around Atherton, giving the industry great insight into growing potatoes in far north Queensland. Attendees were able to talk to the local growers about the challenges they face, and share ideas and knowledge of successful practices.

The event also provided an opportunity to discuss some important R&D information in further detail, with plant virologist Ms Brenda Coutts of the Department of Agriculture and Food Western Australia (DAFWA) outlining the important research she has undertaken on Potato virus Y (PVY), which growers around Australia continually battle.

Spudcasts for spud fans

A new Potato Industry Extension Program initiative that was launched in 2014 was an R&D



podcast series, Spudcasts. Spudcasts has been developed as an alternative method of extending R&D information and industry news, with potato growers and industry members alike excited by the innovation.

The original podcasts can be downloaded online and listened to by growers as they wish, with researchers and experts providing first-hand news and updates. Current episodes feature information on exporting potatoes as well as information on PVY. Stay tuned for new episodes on the AUSVEG website (www.ausveg.com.au).

More to come...

The Potato Industry Extension Program will be continuing in 2015, with a range of Regional Workshops and events already being planned.

This will include another special event for potato growers as part of the National Horticulture Convention, Trade Show and Awards for Excellence, which will be held at Jupiters Gold Coast from 25-27 June. The Convention itself will also be bigger and better in 2015, with Apple and Pear Australia Limited (APAL) also joining the event.

AUSVEG would like to thank all the researchers who have extended information as part of the program in 2014, as well as growers, agronomists and industry representatives who continually make the effort to ensure the Australian potato industry reaches its full potential, and enhances its national and international reputation.

The Potato Industry Extension Program is funded by Horticulture Innovation Australia Limited (HIA) using the National Potato Levies and funds from the Australian Government.

i For more information about the Potato Industry Extension Program, contact AUSVEG. Phone: (03) 9882 0277 Email: info@ausveg.com.au Project Number: PT11004

Q&A Young grower profile

Name: Dan Parker
Age: 32
Location: Birregurra, VIC
Works: Yeoview Potatoes
Grows: Crisping varieties – FL 1867, Snowden, Catani, Trent and Dutch Cream for table

Birregurra

How did you first become involved in the potato industry?

I was born into a farming family that had owned and grown potatoes on our home property for three generations, so I am the fourth generation working the same land. From a young age I had always been helping around the family farm and when I left school at 16 I started working full time for my parents.

When I was 23, the opportunity to buy the farm arose so I purchased and took over the business and the whole operation in 2006.

What are your responsibilities in the business?

As the sole owner and operator of Yeoview Potatoes, my role covers everything including admin, farm operation – from soil preparation to harvest – maintenance, logistics, business development, right through to sales and marketing.

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

When growing potatoes, the crop changes from week to week and the process changes so often. I love the challenge of improving the yield from season to season and it is so pleasing to see a good yielding crop at the end of the season.

I also get satisfaction from growing a premium product for the crisping market and getting good results back from the businesses that I supply, especially because there are so many variables that dictate whether or not your product is accepted.

What are the biggest challenges that you face as a grower?

I find the biggest challenges are soil, plant health and the drier climate. With plant health, learning preventative measures to combat root diseases and virus controls is always challenging. The healthier the soil, the healthier the plant.

What do you see as some of the greatest threats facing the Australian potato industry?

I think the biggest threats to the processing industry at the moment are Zebra chip disease and Potato virus Y.

Also in today's market, consumers are increasingly conscious about eating well and this obviously has an impact on crisping sales. Given the factories are continually developing healthier ways to cook the product so it will be more appealing to health-conscious consumers, it will be interesting to see how the market changes.

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

Regulating imported raw potatoes as well as packaged crisp products could create opportunities for Australian farmers to increase their supply. Promoting public awareness about the health benefits of potatoes is also a must.

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

I couldn't see myself working in anything other than a farming operation of some sort.

Where do you see yourself in five years?

In five years' time I hope to be continuing to run a successful

business at Yeoview, developing my knowledge around soil health and working a lot more with green manure and biofumigant methods.

You recently participated in the 2014 Potato Industry Leadership and Development Mission to the US and Canada. What did you gain from this experience?

It gave me a fantastic insight into how things are done in that part of the world. I gained a lot from visiting the University of Idaho Potato Research Centre, as both of these organisations are working closely with growers to combat potato pests and various other threats to the industry. It was particularly interesting to see the different harvest and bulk storage methods used.

What was the highlight of the 2014 Potato Mission for you and why?

Getting to meet the other growers who attended the mission and gaining good friendships was a highlight. Also, witnessing the harvest operations in Idaho and the massive scale of the industry in Boise, and touring the University of Idaho Potato Research Centre in Twin Falls to learn more about the work they do investigating viruses.

The potato farmers in Prince Edward Island in Canada have a challenging race against time between the snow melting and re-falling to plant and harvest their potato crops; that was really interesting to learn about.



International researchers team up to compare potato DNA results

BETWEEN 2010 AND 2012, THE UK POTATO COUNCIL PROVIDED FUNDING FOR RESEARCHERS TO PARTICIPATE IN AN INTERNATIONAL COLLABORATION TO IMPROVE THE RELIABILITY AND INTERPRETATION OF RESULTS FROM DNA-BASED DIAGNOSTIC TESTS FROM THE UK, AUSTRALIA, SOUTH AFRICA AND NEW ZEALAND. THE STUDY FOCUSED ON TESTS FOR SOIL- AND SEED-BORNE DISEASES INCLUDING POWDERY SCAB, BLACK SCURF AND STEM CANKER.



Healthy tuber.



Symptoms of Rhizoctonia stem canker.

Prior to 2010, several projects in the UK – mostly funded by the UK Potato Council – were underway examining the use of DNA-based tests to study potato blemish diseases. The results from these projects contributed to the development of a Black dot risk assessment guide.

However, attempts to develop a risk assessment guide for Black scurf and Stem canker, incorporating the results of DNA-based tests for *Rhizoctonia solani*, had proved to be more difficult.

“Through collaborative links, we became aware that many of the issues relating to the applicability and interpretation of DNA-based diagnostic tests that we were tackling here in the UK were also the target of research in Australia,” Dr Alison Lees, a research leader at the James Hutton Institute in the UK, explained.

“The opportunity to collaborate more formally within the ‘International diagnostic project’ enabled us to maximise our research outputs.”

The Australian component of the diagnostics work continued until winter 2014.

Risk assessment tests based on DNA-based soil test results were validated on commercial crops in South Australia, Victoria and Tasmania. The tests are currently being offered as a commercial service (PreDicta Pt) in Australia and provide an indication of the risk of Powdery scab, Black dot and Root-knot nematode (*Meloidogyne fallax*).

The Australian project (PT09023) is part of the broader Australian Potato Research Program Phase 2 (APRP2), conducted for the Australian processing potato industry. The program is funded by Horticulture Innovation Australia (HIA) using the National Processed Potato Levy, voluntary contributions from industry and funds from the Australian Government.

Powdery scab

Prior to the start of this project, diagnostic tests for the detection and quantification of *S. subterranea* had been developed. Previous research, funded by both the UK Potato Council and Horticulture Innovation Australia, had shown

that soil-borne inoculum is of greater importance in causing disease than seed-borne inoculum, but a relationship between soil inoculum concentration and the amount of disease on tubers had not yet been shown in the field. This was attributed to the nature of the life cycle of *S. subterranea*, with the pathogen being capable of very rapid multiplication through the formation of secondary zoospores in roots if conditions are suitable.

A ‘standardised’ Powdery scab field trial design was created by researchers, contributing to the Second European Powdery scab Workshop in 2007, and the same design was used during this project. Additional DNA-based testing of samples was conducted to provide information on the timing of infection as well as symptom development. Nine trials were conducted in total – six in Scotland and three in Australia. Additionally, four field trials were conducted in Scotland to investigate the relationship between initial soil inoculum levels and the development of Powdery scab.

New information and recommendations

The final project provided new information on the timing of *S. subterranea* infection and the relationship between soil inoculum levels and the incidence and severity of Powdery scab. The information has not substantially altered previous recommendations for management of the disease, as there are few options available apart from host resistance. However it informed decision making by providing new information, including:

- Inoculum – measure the level of *S. subterranea* on seed and in soil to assess disease risk.
- Conducive conditions – wherever possible, conducive conditions should be avoided.
- Select a free-draining field.
- Avoid over-cultivating soil and creating too fine a soil condition, as this will increase the risk of prolonged soil saturation.
- Avoid soil compaction either when cultivating soil or through vehicle wheels travelling through crops.



Powdery scab.

- Avoid over-irrigation leading to soil saturation.
- Carry out specific control measures.
- Utilise variety resistance. Where a risk of Powdery scab is identified, plant moderately resistant or resistant varieties wherever possible.
- Consider chemical control. If a soil analysis indicates the soil has greater than 6mg/kg zinc, the risk of Powdery scab is much lower. Where low soil zinc levels exist, applying zinc to soil may provide some limited control of Powdery scab, ideally incorporated before planting.

Black scurf and Stem canker

Previous work had been conducted regarding the contribution made by both seed- and soil-borne inoculum to stem and tuber disease; however these results were often confusing and contradictory.

Large uncertainties remain concerning the epidemiology of *Rhizoctonia* diseases, which is predominantly due to the dynamic nature of *R. solani* survival in soil. The fungus is able to survive as hyphae on suitable host tissue and as sclerotia; the latter being able to survive relatively long periods of time in a dormant state. This project was designed to address aspects of the biology of *R. solani* that impact on the ability to assess the risk of disease developing in potato crops.

“Results from research carried out both in the UK and Australia had found that in some fields, although no inoculum could be detected in the soil or on the seed, disease was developing in the potato crop. This was proving a barrier to the effective use of soil diagnostic testing for predicting disease risk for this pathogen,” Dr Lees said.

“A better understanding of the epidemiology of Stem canker and Black scurf was required.”

Six field trials, seven controlled environment studies and a



Rhizoctonia patch.

program of testing/monitoring of tubers and field soils was carried out in the UK during the three-year project. In addition to the experiments which focused on specific diseases, two other pieces of work were carried out which addressed the optimum soil sampling strategy for the soil-borne pathogens studied, and the comparability of DNA test results between participating laboratories. Researchers from both Australia and Plant and Food Research New Zealand were involved.

Sampling soils and diagnostic testing

Before the beginning of this project, some work had already been completed on soil sampling and the distribution of soil-borne pathogens. During the project, further work in Australia using fields (40 to 40 hectares in size) subject to pivot irrigation was carried out.

Inter-laboratory comparison tests were carried out between all five international partners to determine how each centre’s diagnostic results compared. These tests were conducted using soil samples that had been artificially spiked using three pathogens – *R. solani*, *S. subterranea* and *Colletotrichum coccodes*.

Analysis of results showed that the degree to which samples varied within ‘medium’ and ‘high’ inoculum levels were generally within accepted limits (less than 10 per cent). However, ‘low’ inoculum samples always had coefficients of variation that were higher than 10 per cent. This makes



Black scurf.



Common scab.

sense in that there are more likely to be sub-samples containing no pathogen when it is very sparsely distributed, thus causing higher levels of variation.

Nevertheless, there was reasonable agreement between the results of all participating laboratories, demonstrating that results generated from research and commercial testing carried out at the participating laboratories in the UK, Australia and New Zealand are comparable.

Photographs courtesy of SARDI.



The *Informing Management of Potato Diseases through Epidemiology and Diagnostics* final report was authored by Jennie Brierley, Stuart Wale, James Woodhall, Jeff Peters, Dr Alison Lees and Daan Kiezebrink. A copy of the report can be found here: <http://www.potato.org.uk/publications/r422-international-diagnostics-collaboration>

Taking a closer look at American potatoes

FOLLOWING ON FROM A BROADER WRAP-UP OF THE 2014 POTATO INDUSTRY LEADERSHIP AND DEVELOPMENT MISSION TO THE USA AND CANADA IN THE PREVIOUS EDITION OF *POTATOES AUSTRALIA*, WE TAKE A CLOSER LOOK AT POTATO OPERATIONS IN THE UNITED STATES AND RELAY THE HIGHLIGHTS EXPERIENCED BY AUSTRALIAN GROWERS WHO ATTENDED THE MISSION.



A typical potato field in the United States.

During the recent 2014 Potato Industry Leadership and Development Mission, nine potato levy payers and service providers were provided with a first-hand experience of large-scale potato operations, as well as the challenges faced and practices employed by their North American counterparts.

Although the US and Australia are half way around the world from each other, there are several similarities between the two nations – ranging from biosecurity issues to environmental factors and more – which mean that the challenges faced by growers from the two nations are at times very similar. The mission gave the Australians a chance to meet and network with US-based growers and researchers, and take home valuable information that can be shared with the wider Australian potato industry.

The 2014 Potato Industry Leadership and Development Mission was funded by Horticulture Innovation Australia using the National Potato Levies, voluntary contributions and funds from the Australian Government.

Idaho ideas

Boise, Idaho was the first stop on the mission, giving the group an opportunity to learn from some of the international industry's largest and most innovative producers. The group visited the Simplot Field Department office in Caldwell, about half an hour out of Boise.

Simplot Field Representative Ernesto Villafana provided a brief overview of the new processing facility that had been set up in Caldwell. The facility was a state-of-the-art plant with massive capacity to store and transport potato produce. The technology used in the processing of produce – including advancements such as driverless forklifts – meant that the entire system was both extremely efficient and highly productive, and that the plant was capable of packaging and transporting potato products to the entire country.

Next the group visited a nearby storage shed used by a local Simplot grower for processing potatoes. Mr Villafana explained that once harvested for storage, potato produce would be stacked

almost to the roof of the shed, having been transported in on adjustable conveyors to reduce potential bruising and make efficient use of space. Australian growers considered that this form of storage was innovative, but not common practice back home, as the majority of potatoes that needed to be stored were simply kept in the ground until it was necessary to harvest them, due to soil temperatures usually remaining at a fairly stable level all year round.

Following a local field visit, the group travelled back to Caldwell to view an impressive display of machinery used by Idaho growers for harvesting. Four-row harvesters were being hauled by a CAT tractor which was capable of delivering approximately 500 horsepower of pull. The harvester would be pulled down the potato rows, with an arm delivering produce from the harvester into an open truck driving alongside. Using this method, the harvester would be capable of running continuously while trucks simply pulled up alongside in order to collect the potatoes. Australian growers noted that this was a logistically impressive process made

necessary by the scale of production.

The aspect of the visits to Simplot growers that the tour members found most interesting was the efficiency of machinery used by the growers. The majority of Australian growers mentioned that they used single-row harvesters, which loaded into relatively small catchments. This is practical for Australian growers, but also quite slow. Growers said that if they had harvesting equipment similar to that seen in Idaho, they would be able to reap their entire harvest in significantly reduced periods of time, and this would increase efficiency. However, the cost of the machinery would be significantly more expensive in Australia than it was found to be in Idaho.

Potato research in Twin Falls

While in Idaho, the tour also visited the University of Idaho Potato Research Centre in Twin Falls. The Centre provides pest and disease research services to growers in Idaho, as well as general industry research where applicable. Growers were

briefed by Dr Nora Olsen on the varieties of plant pests and diseases experienced by Idaho growers. Many of the diseases that plague Idaho growers also affect Australian growers, with the exception of the Colorado potato beetle and the Zebra chip vector, the Tomato-potato psyllid.

Zebra chip has the potential to encroach upon the Australian industry, having significantly affected New Zealand potato crops over recent years. Dr Olsen said the Idaho potato industry was hit by the Tomato-potato psyllid about five years ago, but has since managed a level of relative control over the pest through attentive vigilance and proper biosecurity.

Following the overview of Idaho disease research, the group was provided a tour of the Potato Research Centre facility. Dr Olsen showed the group the machinery used in the cleaning of seed potatoes, with potatoes rolled down a conveyor and sprayed under a fine mist consisting of sterilisation agents before moving onto a catchment area. Some of the Australian seed growers noted that they used similar equipment in their operations.

Seed processing in Pasco

After departing Idaho, the group travelled to Pasco, Washington, where they visited a highly advanced and efficient seed processing plant run by Syngenta Seeds. Attendees were given a tour of the plant, and were briefed on the processes involved in sorting and distributing seed, including a detailed overview of the plant's state-of-the-art corn seed producing facilities.

For the most part, growers expressed their interest in the tour of Syngenta seeds, despite being removed from their focus in the potato industry. As the majority of attendees worked with more commodities than just potatoes, it was considered productive to get a more varied international horticultural insight from Syngenta.



A full project report will be released in coming weeks and will be made available on the AUSVEG website: www.ausveg.com.au. Project Number: PT13704



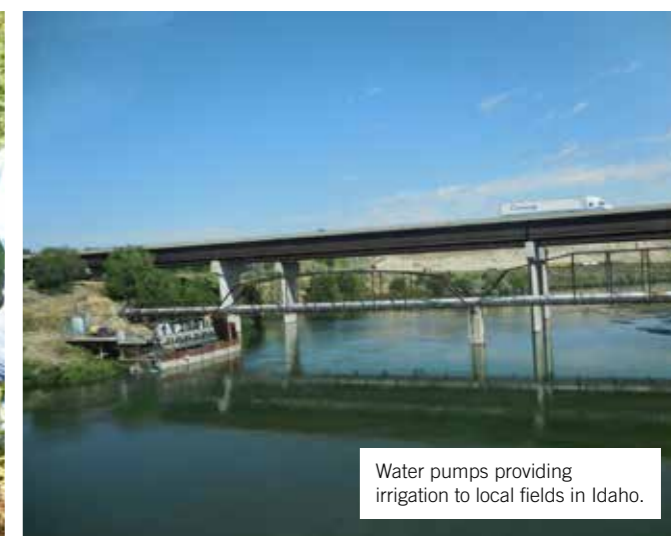
Unearthing 'Bondi' variety potatoes with Simplot in Idaho.



Seed storage at the Syngenta Seed processing plant in Pasco, Washington.



Participants examine freshly dug potatoes.



Water pumps providing irrigation to local fields in Idaho.



Victorian potato grower Rod Fraser, pictured on his Mount Prospect property, has achieved yield gains of up to 12 tonnes per hectare from using a controlled release fertiliser.

New fertiliser improves yields and uniformity on potato farms

ENCOURAGING RESULTS FROM THE USE OF A NEW CONTROLLED RELEASE FERTILISER IN POTATO CROPS HAS SPARKED WIDER ADOPTION OF THE TECHNOLOGY BY GROWERS IN VICTORIA'S CENTRAL HIGHLANDS.

In recent seasons, Creswick CRT store, Davies and Rose Rural and Hardware, has been conducting trials with growers comparing the banding of a controlled release fertiliser at planting with conventional fertiliser applications.

Agronomist Andrew Powell said the use of Haifa Multicote Agri increased yields by up to 12 tonnes per hectare and, importantly, reduced fertiliser usage from up to 1,700 kilograms per hectare down to 900kg/ha.

"(It) resulted in improved tuber setting, nice even growth and more uniform size and shape, rather than having inconsistent shape," Mr Powell said.

He said soil tests had also shown good soil nutrient supply after using the product.

"We soil test prior to a crop and even though less than half

the amount of fertiliser was applied ... compared with a conventional application, there were more nutrients remaining in the soil where Multicote Agri was applied."

Benefits

According to Mr Powell, the controlled release fertiliser offered much better fertiliser use efficiency compared with conventional products.

"Leaching is reduced and so fertiliser usage rates can decrease quite dramatically," he explained.

"(It) can also help control the lock-up of nitrogen and phosphorus that can occur on low pH soils."

Another major benefit of the controlled release fertiliser was that growers did not have to go back into crops to topdress, which allowed savings on labour

and fuel and also reduced the risk of spreading Potato virus Y.

Careful chemistry

The controlled-release fertiliser is designed to feed crops continuously throughout the growing season, achieving optimal growth and yield production. Based on Haifa's polymer coating technology, it releases nutrients into soils in a gradual manner, according to plants' requirements.

The product also differs from many other controlled release fertilisers because its release rate is governed by temperature, not moisture. This is important in ensuring the nutrients being supplied to plants are not lost during periods of high rainfall or over-watering.

The fertiliser combines polymer-coated granules of nitrogen, phosphorus,

potassium and magnesium, and non-coated, readily available nutrients. It is available with a variety of nutritional compositions and release features.

Mr Powell said commercial potato growers were using Multicote Agri with four-month release longevity, while seed potato growers were using the two-month formula to suit their crops, which are grown over a shorter period. He added that Davies and Rose Rural and Hardware could have sold more than the 60 tonnes of the product that they dispatched in 2013 and he expected sales would nearly triple this season.



For further information, contact agronomist Andrew Powell at Davies and Rose Rural and Hardware on (03) 5345 2766 or 0429 452 722.



Congratulations to the 2014 Potatoes Australia Reader Survey winner!



Steve Rieniets from V&S Rieniets in Victoria is the lucky winner of a vegetable garden drip kit from Netafim, valued at \$100 RRP. The kit includes Netafim's Miniscape dripperline and all the accessories and connectors to irrigate an area of up to 50 square metres.

Thank you to all who participated in the survey and provided valuable feedback.

Certification and training renewal

Potatoes Australia would like to remind growers to check and ensure that all applicable and necessary licences that they hold are valid and in-date, in particular chemical training certification and forklift licenses.

It is highly important that growers hold valid licenses and certificates to ensure that they are able to legally carry out necessary practices on-farm and grow their produce to the high standard that the industry is renowned for.



CALENDAR of events



25-27 June 2015

National Horticulture Convention, Trade Show and Awards for Excellence incorporating AUSVEG and Apple and Pear Australia Ltd.

Where: Gold Coast, QLD

What: The National Horticulture Convention is the biggest event in Australian horticulture, providing local and international delegates with an opportunity to forge relationships with members of the vegetable, potato, apple and pear industries. This is a must-attend event for growers, suppliers, wholesalers, researchers and agribusinesses alike.

Further information:

Please contact AUSVEG on (03) 9882 0277, email convention@ausveg.com.au, or visit www.ausveg.com.au/convention

28-30 July 2015

9th World Potato Congress

Where: Beijing, China

What: The World Potato Congress is dedicated to supporting the global growth and development of the potato. It is the first time the Congress will be held in the Yanqing, Beijing region and will be staged at the base of the Great Wall of China. The Congress will be held concurrently with the China Potato Expo and China Potato Congress. It is expected that more than 900 delegates will attend, including growers, researchers, producers, traders, processors and manufacturers.

Further information:

www.potatocongress.org



Stu Jennings

G'day again to the potato people of Australia, young and old. I hope Santa was good to you.

It seemed as if 2014 had only just started and now it's over. I'm sure we only put the harvester in the shed last week, and we are pulling it out again this week. But we keep battling on to feed the world – after all, what kind of a world would we live in if we didn't have potatoes?

Don't forget that Thorpdale in Victoria is reviving its annual Potato

Festival, so on Sunday 8 March come along and help us celebrate our humble spud. Check us out at: www.thorpdalepotatofestival.com.au

And the winner is...

YPP is pleased to announce the winners of the Adama/YPP Photo Competition that we ran late last year.

We asked young potato peeps to use our Facebook page to submit photos of day-to-day farm life and add a few words to describe the scene, with bonus points for making us chuckle. We received some great entries and the winner was chosen by the team at Adama who also supplied the terrific prize of a brand new GoPro Hero4 worth over \$500.

The winning entry was submitted by Mike Smith of Smith Family Farms at Manjimup in WA and the good people at Adama delivered Mike his new camera just in time for Christmas.

Mike's 'Flowers for the missus' gave the judges a laugh and reminded them that we truly do farm for love! (Check out the winning pic and some of the other contenders on the opposite page.)

The judges also acknowledged that there were plenty of close runners-up with Dan Parker's 'Red hot deal on a tractor' showing that some people will do anything to win a prize (hope it was insured Dan). Kate Westcott brought out the big guns with celebrity chef Poh Ling Yeow joining the



team in the paddock, while Michala Chapman pulled out the cute card with daughter Jamie in 'Daddy's Little Girl'. Peter Corcoran supplied us with 'Making hay while the sun shines' and Patty Hope and Richard Hartley reminded us of the beauty and power of Mother Nature.

Lots of good work from the YPP family. Keep them coming on Facebook to show us what you are up to.

We will look to run another comp later in the year with a chance to pick up some more great prizes. If you are not already a part of the YPP crew, do yourself a favour...

All the best,

Stu

PS: I didn't get a prize or a wrap from the judges but here is my dog Dash. Woof!



Summer Weather - it's on the way
Richard Hartley, Lameroo, SA



Red hot tractor deal
Dan Parker, Birregurra, Vic



Poh digging poh-tatoes
Kate Westcott, Albany, WA



Pretty flowers for the missus
Mike Smith, Manjimup, WA



Daddy's Girl
Michala Chapman, Rokeby, Vic



Might get some needed rain
Patty Hope, Euston, NSW



Making hay while the sun shines
Peter Corcoran, Robinvale, Vic

www.youngpotatopeople.com.au



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Find us on Facebook

www.facebook.com/groups/youngpotatopeople/

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At Adama we understand that potato farming can be complex. We also recognise that our industry is strengthened by sharing our achievements and challenges with the wider community – and that's why we are proud to sponsor the Young Potato People.

We believe that the fostering of community spirit and a sense of connection is as important today as it ever has been and a simple photo competition has the potential to bring us all together.

Simply. Grow. Together

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