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April/May 2012



Paul Calvert

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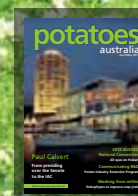
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The Grower feature seen in the February/March edition of Potatoes Australia contained a feature article on Crick & Company, as seen on pg 22. While a majority of photographs were taken on the Crick property, not all of the accompanying photographs were taken onsite and as such should not be taken as a literal representation of Crick production.

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Photograph courtesy of Tourism Tasmania

Photograph by Simon Kenny

John Brent AUSVEG Chairman

Price wars on produce in retail giants have unquestionably caused havoc for growers in recent months. Despite efforts to promote the consumption of fresh vegetables, many in the industry are concerned that price cuts will adversely affect the long term sustainability of the growing community. With consumers solely focused on what food they can purchase for the cheapest price, members of the horticulture industry are understandably concerned for the security of future production.

Importantly, we must come together to tackle the issues and overcome the challenges faced by our industry. Unquestionably, our industry is made of survivors with a stoic spirit who will

unwaveringly battle against the odds to succeed.

Recent floods across the states have hit growers hard. The torrential downpours have inflicted not only physical damage to vegetable and potato crops, but also obstructed the use of on-farm machinery to harvest. The influx of flood waters in regions of southern New South Wales and northern Victoria have caused over-maturation of crops, and advanced the development of diseases due to water saturation. Our thoughts and support are with those growers that are currently weathering these horrendous conditions.

Looking towards the future of the industry, growth in the horticulture sector is expected to be relatively strong over the

next few years. Recently, the Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES) released its quarterly report which contains an overview of the performance and prospects for the Australian rural sector. With forecasts for major agriculture, fisheries and forestry industries, the report stipulated the gross value of Australia's horticulture industry is expected to increase to \$10.2 billion by 2016-17. This is an encouraging sign for those in the horticulture sector, and I am excited to see the further expansion of our magnificent local industry in the near future. If anything, these forecasts may provide comfort to those who have recently fallen on hard times.




John Brent
Chairman
AUSVEG

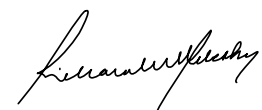
Richard Mulcahy AUSVEG Chief Executive Officer

Ensuring Australian vegetable and potato growers are supported and heard is paramount to the sustainability of the industry. With this in mind, I welcomed the opportunity to chair the *Horticulture Market Alternatives* session, as part of the Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES) conference, held in Canberra. The annual conference is an important forum for discussion on key domestic and global issues affecting Australia's agricultural, forestry and fisheries sectors. The conference provided an opportunity for a range of political and industry leaders,

commodity producers, service providers and other sector experts to meet and discuss important issues.

I am very pleased to welcome the Honourable Paul Calvert as Chair of the Fresh Potato Industry Advisory Committee (IAC). Mr Calvert, who is also currently chairing the Processed Potato IAC on an interim basis, has served as a Senator for Tasmania as well as being the President of the Australian Senate. He has also been involved in the agriculture industry as a farmer for several decades. Mr Calvert will be a valuable addition to the Potato IAC, and I am confident that he will bring a wealth of knowledge and experience to the position.

With less than one month until the AUSVEG National Convention, Trade Show and Awards for Excellence, planning is well advanced. I strongly encourage members of the industry to nominate for the National Awards to recognise the achievements of those in our sector. I urge members of the industry to attend this important event in May. The occasion provides an excellent opportunity for growers to network, and also allows delegates to discover new technologies, expand business opportunities, and to acknowledge individuals for their accomplishments and contributions to the industry.

Richard J Mulcahy
Chief Executive Officer
AUSVEG



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Editorial



The beautiful coastline at Wrest Point Hotel Casino.



Delegates will be in awe of Hobart's surrounds.

One of the busiest and most exciting occasions of the year is now upon us with the AUSVEG National Convention, Trade Show and Awards for Excellence less than one month away. With the final details now in place for one of the biggest events in Australian horticulture, the Convention will once again prove to be an occasion not to be missed by members of the industry. Featuring key political figures, cutting edge research and development, prominent members of the industry, an unprecedented Trade Show and celebrity guest appearances,

the 2012 Convention is sure to surpass delegate's expectations. AUSVEG CEO, Richard Mulcahy, spoke with *Potatoes Australia* about the excitement building in anticipation of the event and for what he believes will be a spectacular and memorable experience for those involved with the industry (pg 12).

In this edition of the magazine, Former President of the Australian Senate and newly appointed Chair of the Fresh Potato Industry Advisory Committee, the Honourable Paul Calvert, spoke with *Potatoes Australia*. Discussing

his exceptional background in Australian political history, Mr Calvert also gave his views on price cuts to produce recently seen in supermarket giants, country of origin labelling, and what he sees for the future of the industry (pg 20).

This edition's featured R&D includes an article by Professor Christopher Franco from Flinders University, detailing a novel approach to disease control with potato endophytes (pg 16). Dr Greg Walker, from the South Australian Research and Development Institute, explains the complexities

in the life cycles of Root-knot nematodes (pg 18), and Dr Leigh Sparrow, from the Tasmanian Institute of Agriculture, details the impact of commercial crop rotations on levels of potato pathogen inoculum (pg 23).

In addition to a selection of industry news, *Potatoes Australia's* regular columns, Ask the industry (pg 27), Soil solutions (pg 28) and the Potato profile (pg 29) are featured, as well as the International R&D update (pg 30) and the Young Grower profile (pg 32).

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News in brief

Extension Workshop in Devonport a success

The first Potato Extension Workshop has been hailed a success by members of the industry with over 30 attendees gathering to discuss prominent R&D projects.

The event, held in Devonport, Tasmania on 14 March, attracted a diverse crowd of growers, processors, researchers, agronomists and industry officials. The session was chaired by AUSVEG Board Director, David Addison.

AUSVEG Manager - Special Projects, Christopher Ritchie, outlined the Potato Extension Program and discussed a

range of issues involving R&D dissemination.

Dr Robert Tegg from the Tasmanian Institute of Agriculture (TIA) discussed the differences between visual and DNA assessments of potato seed for identifying pathogens. Dr Calum Wilson, also from TIA, examined the ramifications of a Zebra chip outbreak in Australia and established



[L to R] - AUSVEG Director, David Addison, Agricultural Services R&D Manager at Simplot, Mr Frank Mulcahy, Dr Calum Wilson and Dr Robert Tegg from the Tasmanian Institute of Agriculture (TIA) and AUSVEG Manager - Special Projects, Christopher Ritchie.

monitoring systems, as well as research work being undertaken on developing Common scab resistant potatoes and treatment methods.

Agricultural Services Research & Development Manager from Simplot, Frank Mulcahy, discussed how consumer demand is changing as a result of Australian multicultural society, the effects of imports on the Australian Potato Industry,

and comparisons between Australian potato production and its international counterparts.

AUSVEG would like to thank the key speakers, the Chair and all those who attended the event for participating. Members of the industry are strongly encouraged to attend future workshops and to keep an eye on the *AUSVEG Weekly Update* and *Potatoes Australia* for meeting notifications.

Seed growers drowned out

Several seed potato growers in southern New South Wales have sustained considerable damages to crops due to excessive rain and flooding.

With an estimated \$3 million in damages caused to local producers, the New South Wales Southern Tablelands town of Crookwell has been fighting a tough battle against the elements.

The flooding has not only caused physical damage to potato seed crops, but also created problems in relation

to harvesting and disease mitigation. With farms and paddocks having become too unstable for growers to use on-farm machinery, crops are over-maturing and developing diseases as a result of waterlogged soils.

Potato seed production has often been viewed by those within the sector as the

backbone of the industry. With many Australian producers using potato seed from New South Wales growers for commercial production, this latest predicament is expected to cause major supply shortages for commercial potato growers.

With some producers calling for assistance from

the Australian Federal Government, the overall impact to the potato industry from damaged seed potatoes is estimated to be \$86 million.

Source: ABC Rural, 15 March 2012.



Grecian growers selling direct

Through a new scheme to survive the European economic downturn, Potato growers in Greece are selling produce straight to consumers.

Spreading across Greece, the so called 'potato movement' has recently seen thousands of tonnes of potatoes and other agricultural produce sold directly to consumers by producers. One of the major advantages is that buyers can see exactly where and whom

their produce is coming from.

The direct sales are held at the local town hall where announcements are made. Consumers can also sign up or place orders online. Local growers are then contacted to see who can supply for the demand, and the required produce is sold to buyers at

the scheduled time.

The venture has generated immense popularity among local consumers. One such event, held in February, saw an online offer of 24 tonnes of potatoes sell out in several days, with 534 families pre-ordering.

Organisers of the scheme

have sought support from the local council and Mayor, which also seems to have assisted in the organisation and roll out of the development.

Source: The Guardian, 16 March 2012.

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Israeli agricultural technology breakfast

On Monday 27th February, AUSVEG Director and grower Luis Gazzola and other AUSVEG representatives attended an Agriculture Breakfast Briefing in Melbourne hosted by the Israeli Trade Commission, the Embassy of Israel and the Australia-Israel Chamber of Commerce.

The special guest speaker was Israeli Minister of Industry, Trade and Labour, the Honourable Shalom Simhon, who has previously held the position of Minister of Agriculture and Rural Development and was a farmer prior to his political career. The Minister took the opportunity to introduce the 18th International Agricultural Technology Exhibition, *AgriTech Israel*, which will be held in Israel 15-17 May this year.

Israel's land mass, 20,700 square kilometres, is minuscule in comparison with Australia's, 7,617,930 square kilometres. Unlike Australia, Israel has a shortage of land and water resources. 80 per cent of its agricultural factories and 50 per cent of agricultural jobs are located in central Israel. One of the speakers at the breakfast, Dr Orna Berry, identified that Israel needs to expand its industry into its northern and southern regions to ensure a more uniform distribution of industry and economic activity.

Despite the differences in land masses, Israel and Australia face similar agricultural challenges as a result of drought conditions. To contend with its low rainfall, frequent dry spells, and problematic sand and clay-ridden soil, Israel has become technologically innovative. Israel invented the drip irrigation system, and continues to make inroads into water recycling, water retention, glasshouses, fertiliser and seed development technologies. As a result, Israel is now using 60 per cent less water than it has done in the past, with 80 per cent recycled.

In recent years, Israel's agricultural industry work force has reduced from 17 per cent to 2.5 per cent. With labour costs decreasing and increased production output as a result of technological advancements, Israel's agricultural industry is a model for what can be achieved in the face of unfavourable conditions.

Given our shared agricultural problems, there is clear benefit for Australia's agricultural



[L to R] - Luis Gazzola, the Hon. Shalom Simhon, Richard Mulcahy, William Churchill and Christopher Ritchie at the Israeli Agricultural Technology Breakfast.

industries to learn from and harness Israeli technologies. Australia and Israel have a long history of cooperating on technologies involving irrigation, greenhouses, and fertilisers. Both countries have also collaborated in capacity building activities in

Pacific nations. Among the speakers at the breakfast were representatives from companies Amiad, Netafim, Toro and Haifa Australia. The representatives spoke of the close relationship between Australia and Israel, and highlighted their agricultural technological partnerships.

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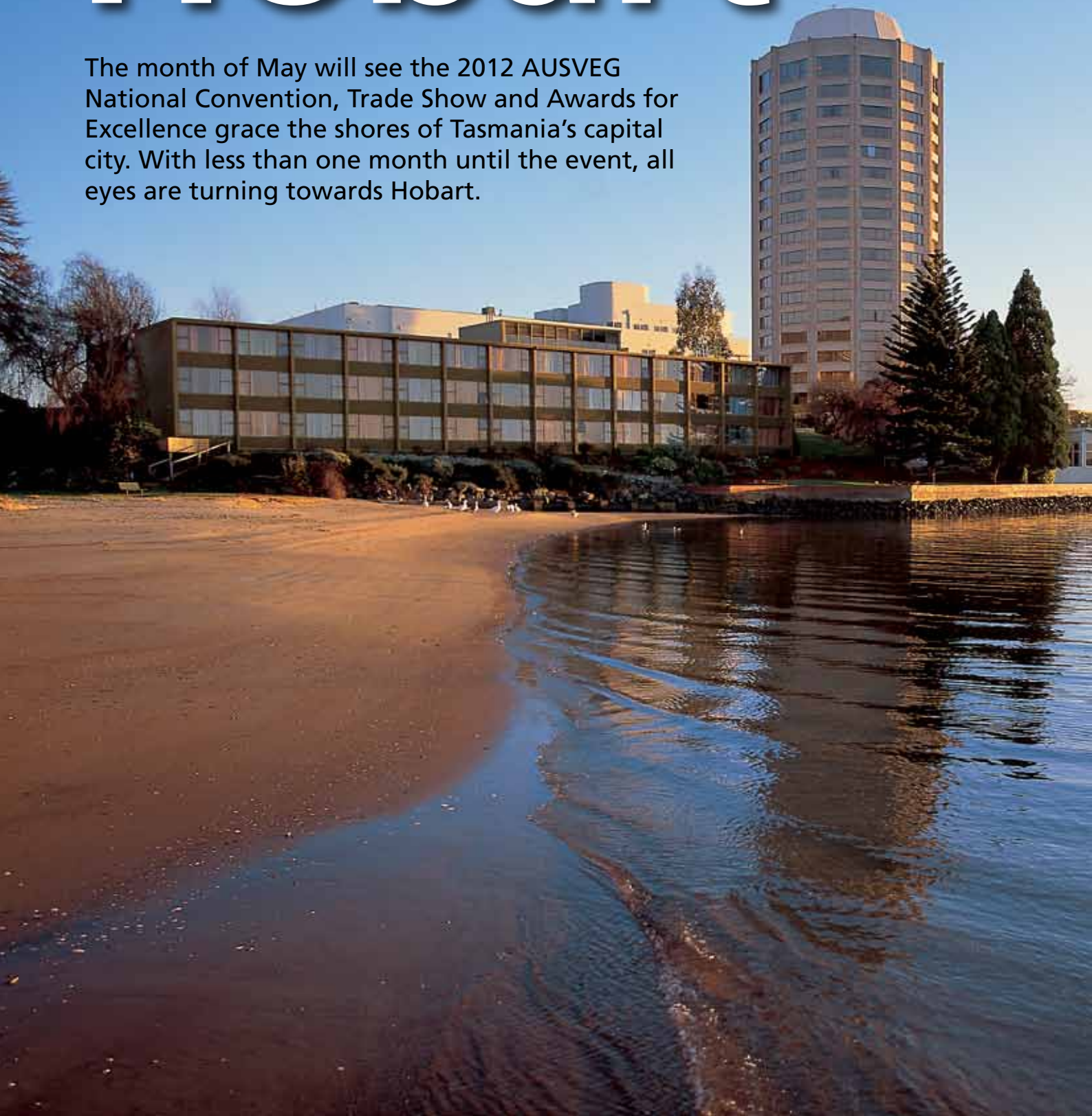
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All eyes on Hobart

The month of May will see the 2012 AUSVEG National Convention, Trade Show and Awards for Excellence grace the shores of Tasmania's capital city. With less than one month until the event, all eyes are turning towards Hobart.



The final phase of preparations for the upcoming National Convention is now underway. With delegate numbers on the rise every year, the Convention has quickly become a cornerstone event in the horticulture industry's successes. All members of the Australian vegetable and potato industries are strongly encouraged to secure their registrations for the event as soon as possible.

AUSVEG CEO, Richard Mulcahy, said he was pleased with the amount of interest generated by those within and associated with the industry for the event.

"The growing recognition of the National Convention each year solidifies the importance of this significant industry event,"

"Those involved with the industry gain an invaluable opportunity to network with key members of the sector, learn about pioneering R&D processes, and experience all that the Trade Show has to offer. The Trade Show provides growers and other industry

participants with the chance to learn about new farming methods and technologies, and has quickly become one of the highlights of this three day event," said Mr Mulcahy.

A central component of

“We will showcase new products and highlight the integration of new technology and software that can assist growers' in-field applications.”

the National Convention, the Trade Show, promises to be packed with significant industry leaders from the supply and service sectors, as well as key figures involved in research and development.

"I am pleased to announce that the majority of the exhibition booths for the Trade Show have been sold, with many diverse exhibitions set to

take the floor. Displays this year will include a large range of practical products and services," said Mr Mulcahy.

Many in the industry are undoubtedly familiar with one of the foremost leading

international brands in agriculture, John Deere. Displaying at the AUSVEG Trade Show, the renowned brand will boast an impressive line-up of on-farm equipment. Tactical Segment Manager from John Deere, Royce Bell, said new technology will be a big focus at this year's Trade Show.

"John Deere is proud to be a partner in attendance of the

AUSVEG conference in 2012. For this year's event we are focusing on our products and technology that can impact growers through machine, product, technology and dealer support," said Mr Bell.

"We will showcase new products and highlight the integration of new technology and software that can assist growers' in-field applications. This is beyond the traditional tractor application. Today's vegetable and horticultural industry is more advanced and business-driven than ever before, and the focus on innovation and productivity is evident."

"A critical component of productivity is how all the products and services from John Deere combine to complement each other - from John Deere Water to Integrated Technology to equipment - they are supported through the dealer network. Further information will be available as we arrive in Hobart in May," he said.



AUSVEG CEO, Richard Mulcahy.



Wrest Point Hotel Casino.



The 4940 sprayer from John Deere.



Hobart's picturesque coastline.



Senator Christine Milne and Senator John Madigan.

“ The growing recognition of the National Convention each year solidifies the importance of this significant industry event. ”

A series of high-profile and influential speakers, as well as industry experts, will again address delegates through speaker sessions in 2012. Deputy Leader of the Australian Greens, Senator Christine Milne, will be attending this year's Convention. As a strong advocate of the Australian vegetable industry for many years, Senator Milne will address attendees of the Women in Horticulture event,

to be held on the afternoon of Saturday 12 May.

Another political figure attending the Convention will be Democratic Labor Senator for Victoria, John Madigan. A strong advocate of the industry with passionate views, Senator Madigan will discuss the future of farming and manufacturing in Australia in an address that is sure to be a highlight. Other special guest speakers will include Chairman and

Managing Director of Bayer Crop Science Australia and New Zealand, Jörg Ellmanns, Professor of Agribusiness at Massey University New Zealand, Hamish Gow, and one of Australia's most eminent historians and renowned authors, Professor Geoffrey Blainey. The speaker sessions are a highlight of the Convention and delegates are urged to confirm their places in the events now.

During the final evening of the Convention, the popular National Awards for Excellence Gala Dinner will return to recognise the achievements of some of the vegetable and potato industries' most valued members.

Members of the industry are strongly encouraged to secure their position at the National Convention while places are still available.



The Tasman Bridge in Hobart. Courtesy Tourism Tasmania & Brian Dullaghan.

Seed Potatoes Victoria Inc.



Seed Potatoes Victoria (SPV) represents the technical and commercial interests of 70 professional certified seed potato producers.

The need for technical liaison between the certification authority and industry led in 1974 to an advisory committee to interact with the Victorian government on the management of the Victorian certified seed potato scheme. It brought seed grower delegates together from different production districts to discuss areas of mutual concern, product quality, and terms of trade. The committee was originally incorporated as the Victorian Certified Seed Potato Growers Committee in 1987, and the amended name of Seed Potatoes Victoria was adopted in 1999. Seed Potatoes Victoria continues to work alongside ViCSPA, the certification authority, to ensure that the highest quality seed is produced for export around Australia and internationally as well.

Seed Potatoes Victoria produces the annual Seed Buyers Directory for certified seed. This is distributed by direct mail to potato growers around Australia. SPV also facilitates the production of forward contract forms, consignment notebooks, farm access protocols, seed sizing templates, and trade displays. The voice of certified seed potato growers to industry and government is represented through SPV. Newsletters, field days, workshops, study tours and seed buyer liaison are all co-ordinated through this progressive and active industry body.

Why plant certified seed?

Certified seed potatoes are health insurance for your crop. Growing potatoes in Australia from certified seed potatoes is the best way to ensure a quality potato and a profitable crop.

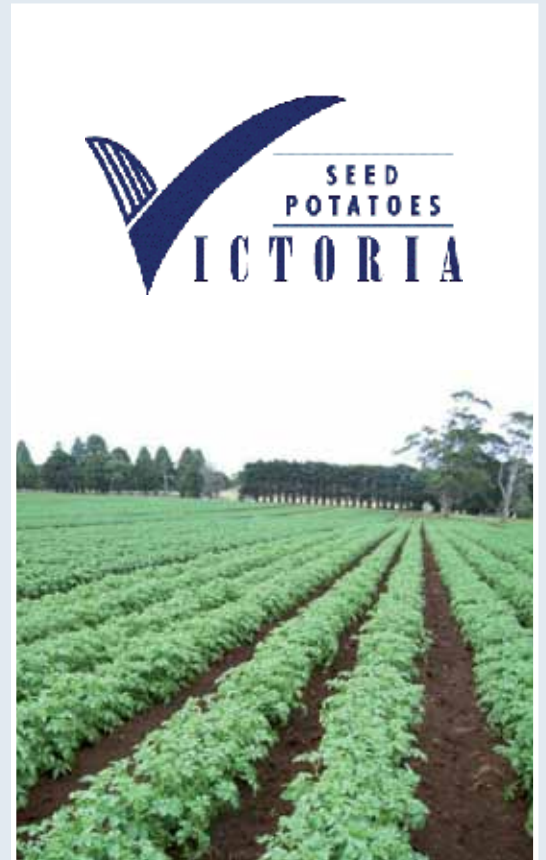
Initially the seed is grown in a laboratory as virus free plant material from tissue culture. Then the next four years certified seed is grown in controlled field conditions. The crop is field inspected twice and tubers are inspected prior to certification to ensure the high standards of the Victorian Seed Potato Authority certification scheme are met. Carefully grown and graded to the highest industry standards by committed and professional seed growers, the seed is Eliza tested for virus status and passes a critical inspection from ViCSPA three times during its life before it gets a certified label.

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Currently potato growers are being especially urged to use only certified seed potatoes to help stop the spread of the disease Potato Virus Y. This virus has already cost the potato industry many thousands of dollars in lower yields and reduced quality. Although this virus has been around for many years, new strains that are more aggressive are appearing. It is becoming a global problem.



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INDUSTRY UPDATES

Go to the SPV website for all the latest updates on industry related farm walks, workshops and information sessions. The SPV website had a major upgrade 2 years ago and has regular updates and changes. The current 2012 Seed Buyers Guide is also available to download as a PDF file.

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PO Box 122 Rosedale Vic 3847
Executive Officer Deb Johnston
Email: admin@spv.org.au
Ph: 0418 921 593

www.spv.org.au

Working from within: enlisting endophytes to improve crop yield

Research has identified bacteria found in the internal tissues of potato plants which could potentially control soil-borne pathogens and improve yields when used as inoculants.

Actinomycetes are a group of bacteria that are well known in the potato industry. Some species of *Streptomyces*, the most common type of actinomycete, cause Common scab of potatoes. However,

most actinomycetes are not pathogenic and have attributes that can be used for beneficial purposes.

Actinomycetes produce a range of compounds that can be of benefit to plant productivity.

Some strains produce compounds that will stimulate plant growth and others will suppress plant pathogens. This, coupled with the fact that they rapidly colonise roots and plants and can survive in a range of

conditions, means that they may offer an environmentally friendly approach to disease control and improved productivity.

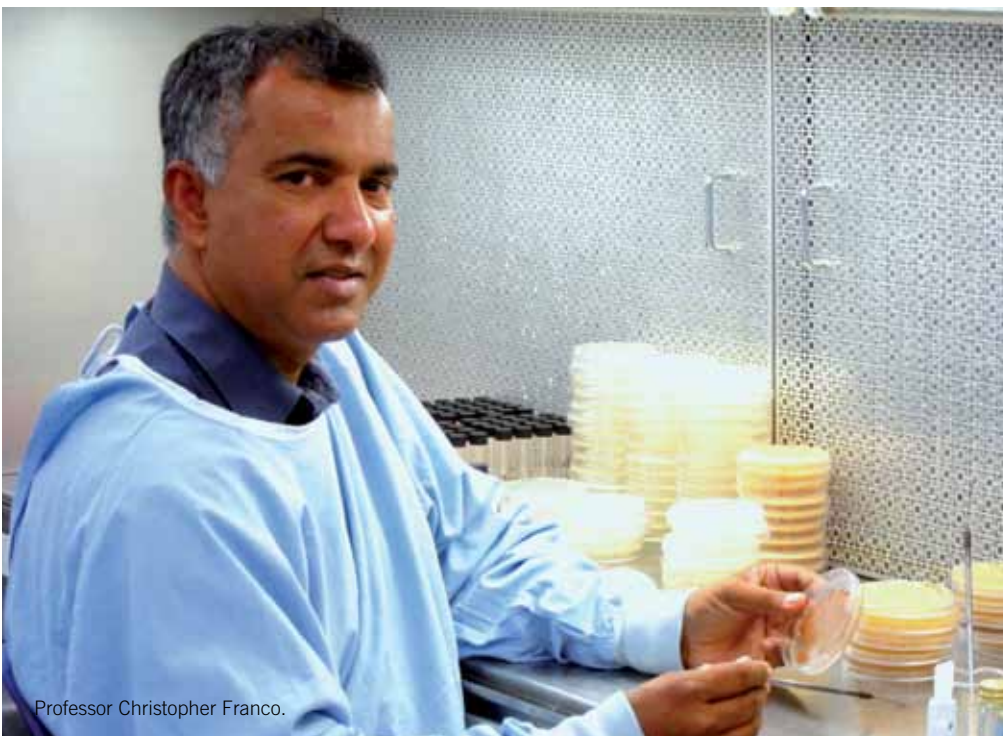
What was identified?

Beneficial actinomycetes were first identified in the soil and pure cultures created for testing as inoculants. The challenge for the inoculated beneficial bacterial is that they needed to then out-compete other strains of faster growing bacteria in the soil. Consequently, results have not been consistent and reliable.

To address the issue of competition in the soil, a group of actinomycetes that actually live within the plant were identified as a potential solution. This group of 'endophytic' actinomycetes inhabit the inside of the plant without causing apparent harm.

Influence of plant growth

In work that commenced a decade ago, our group at Flinders University evaluated the role of endophytic



Professor Christopher Franco.



“ Field testing over three years has shown that application of actinomycete inoculants to the seed resulted in significant grain yield increases of 10-15 per cent. ”

actinomycetes as beneficial partners for cereal crops. We found that they influence plant growth via enhanced germination (plant emergence), the production of growth hormones, and as biocontrol agents. Selected actinomycete endophytes have been used as inoculants in field trials with wheat and barley to control Take-all, Rhizoctonia root-rot and Crown rot diseases. The project has been funded by HAL using the processed potato industry levy, voluntary contributions and matched funds from the Australian Government.

Upon joining the Australian Potato Research Program

phase two (APRP2), we found significant numbers of endophytic actinomycetes in the internal tissues of field grown potato plants. We wanted to evaluate their potential to suppress soil-borne pathogens of potato plants such as *Rhizoctonia solani* (Stem canker and black scurf disease), *Streptomyces scabies* (Common and Powdery scab) and *Spongopora subterranea* (Common and Powdery scab).

It has been beneficial working with people with decades of expertise in potato research and agricultural development. Since joining the project in 2010, we have isolated over 300 different actinomycete strains from most of the common varieties of

potato grown in South Australia. The pure cultures have been tested in the laboratory for activity against *Streptomyces scabies* (Common scab), *Rhizoctonia solani* (Black scurf) and *Pythium* (Damping off). The strains that inhibit the growth of these pathogens have also been tested to ensure that they are not pathogenic to potatoes. The most promising potato endophytes, selected for their activity against Common scab and Rhizoctonia, are being tested in glasshouse and field trials by Calum Wilson and his team at the Tasmanian Institute of Agriculture.

What will this mean for growers?

So, what is the benefit of all this science for potato growers? In the wheat and barley research mentioned above, field testing over three years has shown that application of actinomycete inoculants to the seed resulted in significant grain yield increases of 10-15 per cent. Productivity gains of this order may be possible with potatoes if we can identify suitable strains.

This article was contributed by Professor Christopher Franco of Flinders University.

THE BOTTOM LINE

- Selected bacteria living in the internal tissues of the potato plant could potentially control soil-borne pathogens and improve yields when used as inoculants.
- Promising potato endophytes, selected for their action against Common scab and Rhizoctonia, are being tested in glasshouse and field trials.
- This type of organism has proved to be beneficial in cereal crops, and could provide a more natural and environmentally friendly approach to improving potato health and productivity.



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Anticipating the effects of Root-knot nematode

By determining temperature requirements of the Root-knot nematode species *M. Fallax*, researchers can better estimate the life cycles of nematodes in potatoes and soils.

In recent years, concerns have emerged from the identification of Root-knot nematode species *Meloidogyne fallax* in some Australian production areas. Relatively little is known about the life cycle of this nematode, such as its temperature requirements and generation time. Given that international quarantine authorities are concerned about the spread of Root-knot nematode, it is of paramount importance to understand the details involved with the nematode's progression, particularly for the development of on-farm management practices. Importantly, researchers are now making inroads into understanding the life cycle of this nematode.

What is the significance of generations?

Significantly, the greater the number of nematode generations, the larger the number of nematodes that will be produced, with each female laying hundreds of eggs.

As such, there is increased

likelihood that crops can be damaged from the nematode multitudes. Soil temperatures play an important part in nematode production, and are often measured by degree-days. This measure calculates the averages of minimum and maximum daily temperatures above a base temperature.

“ It is of paramount importance to understand the details involved with the nematode's progression, particularly for the development of on-farm management practices. ”

Through tests conducted in greenhouses at the South Australian Research and Development Institute (SARDI) Plant Research Centre, which is inhabited by a local population of this nematode, researchers have been able to estimate generation times. Revealingly, the generation time from egg to peak egg production was estimated in the greenhouse to be about 489 and 721 degree-days, base 10°C and 5°C respectively; egg production has increased to near peak levels by 467 degree-days, base 10°C. These findings can now be correlated with those currently being observed in a field experiment on a potato farm in the south-east region of South Australia. The degree-





Dr Greg Walker.



days are being calculated at this site using a data logger to monitor soil temperatures. This project is funded by HAL using the national vegetable levy and matched funds from the Australian Government.

Observations in the field

Nematode egg masses were observed on roots of potato plants at the site on 4 January, 2012 (63 calendar days, and 525 degree-days, base 10°C, after the planting date of 2 November, 2011) but not on 12 December, 2011 (40 days, and 337 degree-days, base 10°C, after planting). The manual extraction of roots indicated a sharp increase in numbers of Root-knot juveniles between these two dates. Although this result is consistent with the estimated generation time of this nematode in the greenhouse, generation time is likely to be slightly longer in the field (467-489 degree-days) as time must elapse for seed potatoes to grow roots.

The likelihood of another *M. fallax* generation being completed at this site before the end of the growing season/crop harvest can only be predicted. Based on recent soil temperatures, it could require up to several months to complete another generation, but this could be shortened with warmer weather.

The current season has been comparatively cool, and a grower's decision when to terminate this crop will be important. However, it appears that there is potential for two generations of *M. fallax* in one potato growing season in this production region.

What should growers expect?

The highest level of reported nematode damage occurred during the most recent season, during November 2011, in which extremely hot temperatures were recorded. Seasons which display early hot conditions may favour two

generations of this nematode. Importantly, an early finish to the first generation can result in increased infection of developing tubers, and thus escalate the level of galled tubers and reported damage at harvest. The second generation is likely to infect tubers late in the season, and may cause the spread of the nematode in seed. Global warming will likely increase the risk of multiple generations of nematodes per season.

To understand this nematode more comprehensively, further experimental refinements will be required to decipher the most appropriate base temperature. It is possible this nematode may have a threshold temperature for development between 5° and 10°C.

This article was contributed by Dr Greg Walker of SARDI.

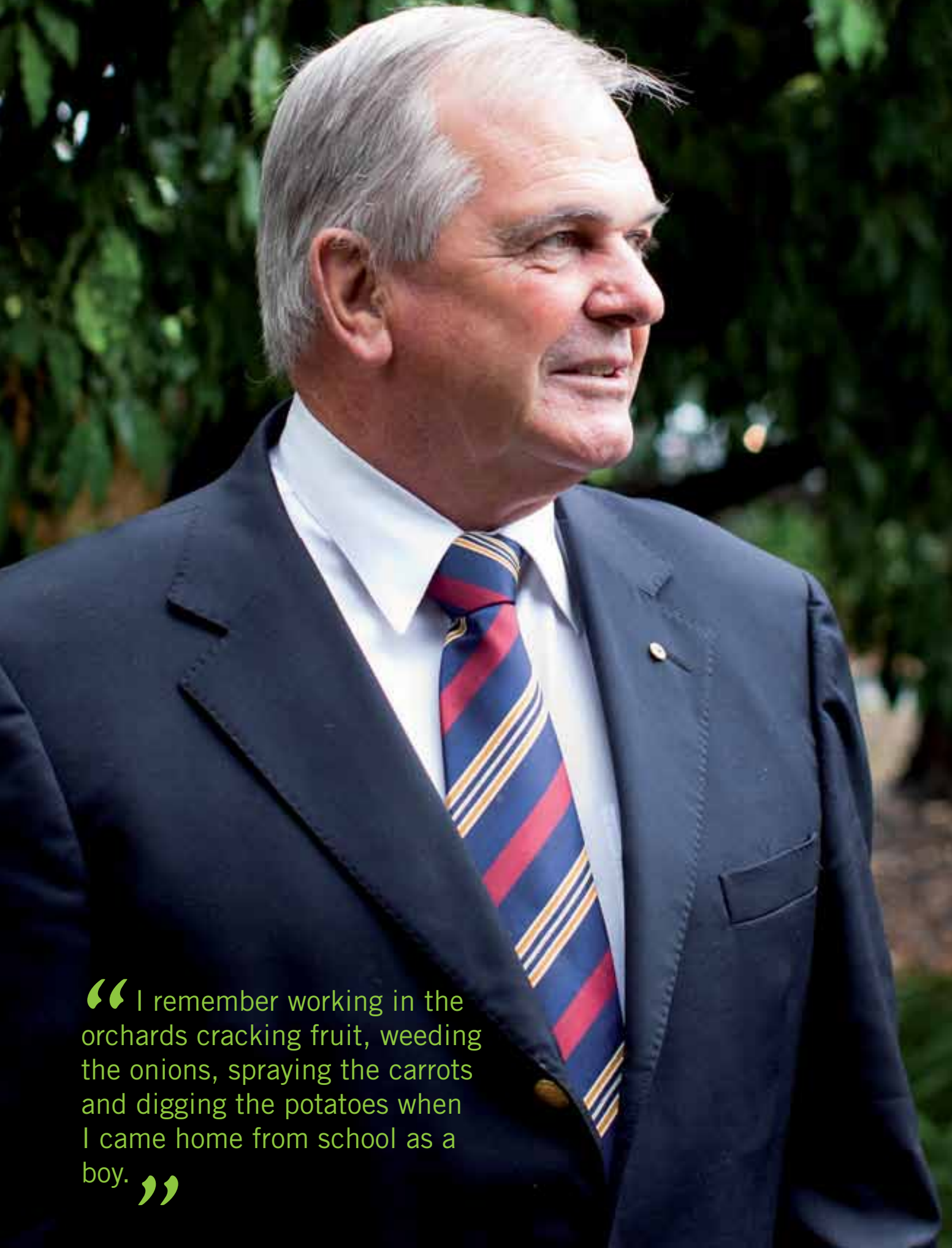
THE BOTTOM LINE

- Information about the life cycles of Root-knot nematodes is essential to understanding and managing the destructive pest.
- By determining temperature requirements of the *M. Fallax* nematode species, researchers are now in a better position to predict the number of generations of this nematode, and identify potential damage to vegetable crops.
- Tests conducted in greenhouses at the SARDI Plant Research Centre have permitted the generation times to be accurately estimated.



For more information please contact:

Dr Greg Walker
SARDI Plant Research Centre
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Project Number: MT09067



“ I remember working in the orchards cracking fruit, weeding the onions, spraying the carrots and digging the potatoes when I came home from school as a boy. ”

From presiding over the Senate to the IAC

With a successful career in local and federal government, including agri-political work, the Honourable Paul Henry Calvert has held numerous prominent and respected positions during the past several decades. Recently appointed as Chairman of the Fresh Potato Industry Advisory Committee, Mr Calvert spoke with Caitlin Rodé.

President of the Australian Senate and President of the Royal Agricultural Society of Tasmania are but two of the many positions which the Honourable Paul Henry Calvert has held during his illustrious career - one which saw him appointed as an Officer of the Order of Australia. Bringing a wealth of knowledge and industry experience to his new appointment as Chairman of the Fresh Potato Industry Advisory Committee, Mr Calvert has campaigned for the rights of those working in the agriculture industry for over thirty years.

Rural beginnings

As fifth generation Tasmanians with a history in orcharding and agriculture, Mr Calvert's family background is one steeped in Australian agricultural history. Mr Calvert was raised on a well-established family farm south of Hobart. Despite holding several political positions since the 1980s, he still manages a 1000 acre property in Sandford, Tasmania today.

The family farm, located in South Arm, produced pink eye potatoes, onions, carrots and managed several orchards. "I remember working in the orchards cracking fruit, weeding the onions, spraying the carrots and digging the potatoes when I came home from school as a boy. We used to set all of the potatoes by hand with a horse

and 2-furrow plough, and dig them up with forks in those times," said Mr Calvert.

Identifying a need for action on issues affecting local vegetable growers and farmers, the 1970s saw the beginning of Mr Calvert's political career.

"I was President of the local farmers' group. We were having a lot of problems with the local council at the time. It was then decided that I was to represent local views in the council, and a short time later, I ended up being the Mayor."

"An opportunity to participate in the Australian Senate then arose, and I decided to take it. In 1987, I was elected to the Senate, and I managed to hang on there for 20 years," he said.

At that time, there was no Senate committee reflecting primary industry. Mr Calvert and a Senator for the National Party managed to corral the support of the Democrats to form the Animal Welfare Committee, which acted to recognise and alleviate many of the animal welfare concerns that were present at the time. This later became the Rural and Regional Affairs Committee and marked the first time, since 1940, that primary industry had been represented in the Senate Committee System.

"I think that was one of the things I was most proud of," Mr Calvert acknowledged. "That committee has gone on to be marvellous in representing the

rights of all rural producers in Australia, including vegetable growers. It is a means whereby people can come and give evidence which the committee records, and legislation is formed accordingly."

Changing Australian Parliament

Working for 20 years in the Australian Senate, with five years as President, Mr Calvert is often recognised for his efforts in tackling the outdated departmental structure of the Australian Parliament.

"It was very satisfying, rewarding and humbling. I must admit, along with the two speakers I was with over the five years of my Presidency, we faced many challenges," said Mr Calvert.

One such instance was when then Federal Treasurer, Peter Costello, asked Mr Calvert to reduce the number of departments in the Senate from five to three. Well aware of the fact, which had been reinforced by his advisors, that there had been at least five genuine attempts made by former Labor and Liberal speakers and Presidents from 1912 to amalgamate the outdated departmental structure, Mr Calvert said it was a daunting request.

"I'm pleased to say that it was the only time a President of the Senate had moved a



Photography by Sarah Wood Photography.

bill from the Chair which was successful. It certainly has made the running of the Senate more efficient, and has saved a lot of money. I think, along with my colleagues at the time, that it was something I'm very proud of and it was quite an achievement really," he conceded.

Issues affecting Australian growers

Reflecting on the current price wars on produce seen in retail giants, Mr Calvert said consumers are perhaps now more concerned with how vegetable prices will affect weekly budgets, rather than the long term viability of Australian vegetable producers.

"I think, unfortunately, because of the tight home budget situations, quite a large number of consumers don't look at where the better produce comes from, but rather, the price. There's no doubt that the produce from the vegetable growing areas of Australia is of a much higher quality than what comes in from other countries - God knows where it comes from half the time, you wouldn't have a clue! The two major food market chains, I think, are the biggest threat facing the vegetable industry," said Mr Calvert.

"That sort of action, of drastically cutting prices of home grown produce, really ends up being to the detriment of the people growing it. At the end of the day, it's the producers who cop it. In the future, who knows if some might

doing the best they can to keep up with modern trends."

Country of origin labelling

Mr Calvert acknowledges that ambiguity in labelling,

other areas also. It just doesn't seem to be printed big enough for people to see it. It is present in some cases, but unless the consumer looks through the fine print, which is like reading an insurance policy, you don't know what's there until you get right to the bottom," he said.

"Most people are in too much of a hurry to see where it comes from. I know there are a lot of discerning buyers who are concerned about where their products come from, but it's still very deceptive. When products state 'produce of Australia' or 'product of Australia' or 'Made in Australia' - when you know damn well you only have to put water in the orange juice to make it such - 'made in Australia' can still be misleading. It really does need more clarification. And I question the imported vegetables that are coming in - how do we know what sort of chemicals they are using to produce them?"

Mr Calvert will undoubtedly prove to be a valued addition to the Fresh Potato Industry Advisory Committee. As a man who has run his fingers through the soil and had his boots in the mud, he is a rare example of an individual whose agri-political advocacy during his career was very much influenced from first-hand experience.

“ Unfortunately because of the tight home budget situations, quite a large number of consumers don't look at where the better produce comes from, but rather, the price. ”

then have to make short cuts to try and remain competitive." "We're also seeing more and more of the primary industry going overseas. When you look at the age of people working in the industry, you realise that it is an aging workforce. There are not a lot of younger people coming into it. But the ones who are coming into it, I think, are very motivated, skilled and are

and questions of traceability, have clouded the minds of consumers shopping in large retailers for years. One of the primary concerns for many growers in the industry revolves around the question of 'where did this product come from?'

"Country of origin labelling has been the subject of many discussions and enquiries, not just within parliament but in

Mitigating soil health issues

A joint research project has identified rotation crops with the potential to reduce soil-borne pathogens that cause Powdery scab, Stem canker and Black scurf.



The practice of crop rotation has long been known to help combat the build-up of soil-borne pathogens. Good rotations deny pathogens a host plant upon which to prey, causing the pathogen to starve. Some crops in a rotation may even kill the pathogen. Biofumigants are an example. But it is also possible for some crops to encourage pathogens. Such crops are called alternate hosts.

Since 2005, the Australian Potato Research Program Phase 2 (APRP2) has been working with the South Australian Research Development Institute (SARDI) and Tasmanian Institute of Agriculture (TIA) in annual monitoring of potato pathogens in the soil of commercial paddocks in South Australia and Tasmania. The

project, funded by HAL using the processed potato industry levy, voluntary contributions and matched funds from the

“ Good rotations deny pathogens a host plant upon which to prey, causing the pathogen to starve. ”

Australian Government, aims to see how pathogen populations change in relation to the crop rotations at each site. DNA of the pathogens causing Black scurf, Stem canker, Common scab and Powdery scab were measured in samples of topsoil

from each site. Samples were analysed by SARDI in Adelaide using the DNA probes which are being tested as part of APRP2.

The land use at each site was noted each year.

What was identified?

Average annual DNA concentrations are shown in Figure 1 for South Australia

and Figure 2 for Tasmania, seen on the following page. In both States, *S. subterranea* (Powdery scab) was present in the highest concentration and *S. scabiei* (Common scab) was generally present at the lowest concentration. This does not necessarily mean that Powdery scab was the most prevalent disease because the critical DNA concentration for disease is not the same for all pathogens. The average concentration of Powdery scab DNA increased markedly from 2005 to 2006 in both states. This is most likely because commercial potatoes were grown at all sites in the 2005/06 season, which was wet, favouring Powdery scab. Following this ‘perfect storm’, average Powdery scab DNA concentrations fell in 2007 and



Pathogen DNA concentrations at South Australian monitoring sites

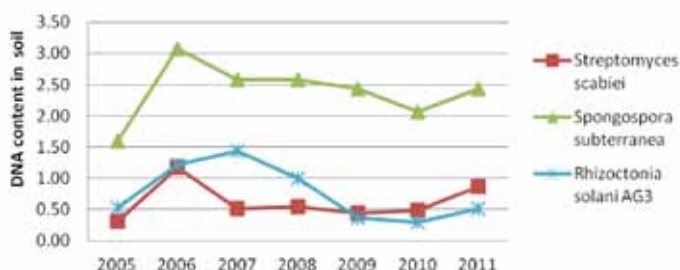


Figure 1. Average annual pathogen DNA concentrations (log scale) at the South Australian monitoring sites.

Pathogen DNA concentrations at Tasmanian monitoring sites

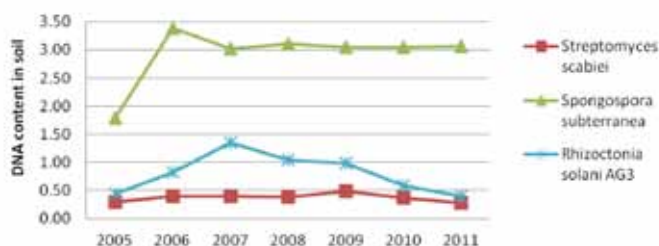


Figure 2. Average annual pathogen DNA concentrations (log scale) at the Tasmanian monitoring sites.

have been fairly steady since. Average concentrations of DNA of Stem canker and Black scurf have fluctuated (Figures 1 and 2), as have average Common scab concentrations in SA (Figure 1), but in Tasmania Common scab concentrations have been low and steady (Figure 2). Unlike Powdery scab, neither Stem canker and Black scurf nor Common scab

were detected in all fields each year. The diversity of crops in Tasmania was greater than in South Australia. Sixteen different crops (including pasture) were grown at least once during the study in Tasmania, compared to only six in South Australia. Consequently, Tasmanian rotations were more diverse and provided the best basis for

identifying any effect of rotation crops on potato pathogen DNA in the soil in the following year. For Powdery scab in Tasmania, all crops other than potatoes immediately decreased DNA in the soil, with poppies, carrots and peas giving the largest drops. While for Stem canker and Black scurf, wheat and oats were the DNA decreasing crops, and carrots, ryegrass and fallow were associated with DNA increases. Fallow in our study means no crop present, but weeds, including volunteer potatoes, are not necessarily controlled all the time. There was no effect of prior crop on Common scab DNA at the Tasmanian sites.

Across Tasmania and South Australia

In both states, growing potatoes again consistently boosted Powdery scab DNA in the following year, but the same was not the case for the other pathogens. Powdery scab produces sporeballs (clusters of spores) that can lie dormant in the soil for several decades, explaining its persistence. This pathogen also needs the potato plant to complete its life cycle and produce the next generation of spores, unlike Stem canker and Black scurf or Common scab, which have alternative hosts and can maintain their populations in soils to some extent without their hosts. The behaviour of Powdery scab in a rotation is therefore more predictable and its concentration in soil seems to reach a new high each time potatoes are grown in the same paddock.

The monitoring so far has identified some rotation crops

with the potential to decrease the risk of soil-borne disease in potatoes. This potential needs further evaluation in replicated rotation experiments where the effects on disease in potatoes can also be confirmed. So far, pathogen DNA as a measure of disease risk has been used, and the merit of this approach will be clearer when the soil diagnostics program in APRP2 is complete. Disease risk also depends on management factors like time of planting, choice of cultivar, soil and crop nutrition, irrigation scheduling, and also on seasonal rainfall and temperature. All of these factors can be more closely accounted for in controlled experiments than they can in monitoring programs. More monitoring data will also be gathered in the remaining two years of APRP2 and this may reveal other rotation effects not yet seen.

This article was contributed by Dr Leigh Sparrow and Dr Dolf de Boer. Robin Harding, formerly of SARDI, coordinated this work in South Australia. We thank the participating farmers for allowing us to sample their paddocks each year.

THE BOTTOM LINE

- Monitoring has identified rotation crops with the potential to reduce the load of soil-borne pathogens that cause Powdery scab, Stem canker and Black scurf.
- The usual gap of several years between successive potato crops in the same paddock helps to combat soil-borne disease.
- The pathogen that causes Powdery scab is persistent and seems to increase to higher levels each time potatoes are grown.

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Potato industry extension program

With a myriad of challenges facing the industry, Research and Development advancements and dissemination is crucial for the sustainability of the sector. This is the second bi-monthly article on the Potato Extension Program. Manager - Special Projects, Christopher Ritchie, details several R&D developments.

Since joining AUSVEG, I have had the privilege of meeting a number of growers, processors and researchers across Tasmania, South Australia, New South Wales and Victoria. All of which have detailed various issues concerning the potato industry in general, and research and development (R&D) concerns more specifically. In a time when potato production input costs are increasing, labour costs are high, and Australian markets are having to compete with foreign imports, it is important that R&D

can help alleviate financial woes, increase industry innovation, and improve Australian product marketability.

Recently a Potato Extension Workshop was held in Devonport, Tasmania on 14 March 2012. Tasmanian Institute of Agriculture researchers, Dr Calum Wilson and Dr Rober Tegg, presented on their research programs, and Simplot's Frank Mulcahy discussed the collaborative approach to R&D by processing companies, and the current and future threats and challenges

facing the industry. The event was chaired by AUSVEG Director, David Addison. AUSVEG would like to thank the key speakers, the chair, and all those who attended.

R&D

Project: Importance of tuber borne inoculum on seed potato health - PT09019

The issue: Traditional seed certification involves visually assessing tubers for soil-borne infectious agents

(pathogens) and disease symptoms. Nevertheless, visual assessments are not always 100 per cent accurate.

The research: DNA technology has the potential to improve the accuracy of detecting pathogens and diseases. TIA's study has involved the collection and assessment of samples from commercial crops, followed by the analysis and interpretation of data. In a collaborative effort, the South Australian Research and Development Institute (SARDI) are undertaking DNA



testing. DNA technology is being used to analyse seven key soil-borne pathogens. Although the program is at an early stage, results to date have revealed that DNA technology can identify pathogens not visible to the eye, and may also help growers and processors to make a distinction between pathogens that cause similar disease symptoms (Common and Powdery scab). While traditional visual assessment with the naked eye still provides a reasonable assessment of potential disease risks, DNA technology may compliment visual assessments, and provide an additional tool for the potato industry to more accurately predict the risk of disease in potato seeds.

What can be achieved: DNA technology may potentially provide growers and processors with an improved means to assess the disease risk of planting a given seed line. The DNA assessments may also help to more clearly identify potential pathogen risks, allowing growers to apply seed treatments (or other remedies) to minimise the risk of disease. Growers will have greater certainty regarding seed quality, and therefore, improved growing conditions and yield potential.

Putting it into practice: Although this program is in its infancy, TIA can provide information regarding the on-going research.

Please contact Robert.Tegg@utas.edu.au (03) 6233 6830 or Calum.Wilson@utas.edu.au (03) 6233 6145.

R&D

Project: Development and demonstration of controlled traffic farming techniques for production of potatoes and other vegetables - MT09040

The issue: Soil sustainability is a key issue for the potato industry. This is particularly the case in situations where potatoes form part of an intensive cropping rotation with other vegetables. Excessive tillage and traffic, particularly at harvest, are recognised as major contributors to soil degradation, which has an economic impact on growers through both reduced productivity and increased tillage costs.

The research: TIA's project focuses on the development of alternative cropping systems, and as such, has application for all cropping enterprises. Results from the project test site indicate that soil conditions improve fairly rapidly following implementation of controlled traffic. Regular soil sampling since the beginning of the project (Spring 2009) shows that controlled traffic has contributed to lower bulk density, higher porosity and lower water filled pore space

in soils. This has implications for infiltration and drainage under wet or intensive rainfall conditions. Other observations include much higher infiltration rates and improvements in soil structure. There has been a 30 per cent reduction in the number of tillage operations so far, with individual seasons showing a 50 to 70 per cent reduction. Impacts on crop yield have been neutral or slightly positive. The project aims to continue intensive cropping rotation with monitoring of soil and operational factors and yield, and some equipment modifications to improve the functionality of the system.

More information is available at <http://www.tia.tas.edu.au/vegetables/news/controlled-traffic-farming>.

What can be achieved: At its most basic, controlled traffic is a means of better managing soil. Further benefits include reduced fuel use and machinery requirements, better soil-water conditions, and improved productivity. Economic modelling indicates that, depending on a range of factors, improvements in whole of rotation gross margin could be 20 to 60 per cent.

Putting it into practice: Adopting controlled traffic requires a considered and planned approach. Many current machine designs

are incompatible with a fully integrated controlled traffic system, although some simple changes can allow implementation of seasonal controlled traffic. Other projects have shown soil improvements, although at a slower rate, as a result of using seasonal controlled traffic. Satellite guidance is an important technology for enabling controlled traffic.

For more information on the research and options for on-farm implementation, please contact: john.mcphee@utas.edu.au (03) 6430 4910.



Upcoming events

AUSVEG Potato Industry Extension Program Workshops are tentatively scheduled as follows:

Ballarat, VICTORIA
Friday 15 June 2012

TBC, SOUTH AUSTRALIA
Wednesday 15 August 2012

Warragul, VICTORIA
Thursday 15 November 2012
More details will be available shortly.

For more information please contact: AUSVEG Manager - Special Projects Christopher Ritchie
Phone: (03) 9822 0388
Email: christopher.ritchie@ausveg.com.au



Ask the industry

with
Scott Mathew



Scott Mathew, Technical Services Lead from Syngenta.

Potato varieties, plant desiccation and chemical application. Scott Mathew answers your questions in this edition of Ask the industry.

For this edition, I thought I would share answers to some questions which have been asked during meetings I have attended over recent months. Interestingly, the first of these has come from discussions I've had with consumers of potatoes during my travels.

Question: As a consumer, how can I find out what potato varieties are best suited to how I am planning to cook them?

This issue has also confronted me while I've been shopping at the supermarket. I think a great way for the growers, wholesalers and supermarkets to address these issues would be to have clearer point of sale material that shows which potatoes are suited for a particular end use. For example:

Boil/Salad	Mash	Microwave	Roast	Fry	Taste
√√	√	√√	√√	√	√√√
√√√ Excellent √√ Very Good √ Good					
Cooking Characteristics					
Delaware is an all round great tasting starchy potato perfect for microwaving, boiling or roasting.					

Question: Our potato canopies are quite large this season and there are a lot of weeds throughout the crop as well. What is the best way to approach desiccation with a non-residual herbicide this season?

For the best results, an even and complete coverage and good penetration of the spray into the target foliage is necessary. However, when the potato canopy is quite dense and there are large numbers of weeds present, application can sometimes be quite difficult to achieve. One way to improve the desiccation result is to split the application. An example of one such non-residual herbicide is REGLONE®. An initial application will commence crop desiccation which will open up the canopy to give better access to the plant stem bases for the main desiccation application.

Question: If splitting the application, how long should I wait until I apply the second dose?

This depends on the environmental conditions. After the initial application, apply the second dose after the canopy has opened up (within 5-7 days). The initial REGLONE® application should be made using 1-2L/ha (always add AGRAL® at 200ml/100L of water). Follow up in 5-7 days with a further 2-3L/ha. You can use up to, but do not exceed, 4L/ha per crop.

Question: Why should I use REGLONE®? Can I use Paraquat + Diquat based products (SPRAY.SEED®, Revolver, Spraykill, Spray-out 250, Eos)?

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 chemical registered for this purpose in Australia is diquat 200g/L (e.g. REGLONE®). The off-label use of crop protection products is against the law. Additionally, off-label uses, particularly in the late stages of crop development and around harvest, can pose a real risk of resulting in residues in the harvested potato crop.

Question: I have heard of growers having issues with REGLONE® causing stem end rot, is this accurate?

Very rapid vine desiccation can, on occasion, cause a discoloration or browning of the tuber vascular ring, regardless of the method used. It is a myth that this problem is specifically related to use of REGLONE®. Stem end browning (SEB) can be a feature of any rapid crop destruction in dry conditions when temperatures are high. Immature crops that have a higher water demand, situations where there is a high soil moisture deficit and when application is made during high temperatures when tuber dehydration is likely to be at the highest point, pose a greater risk of SEB developing.

Ask the industry

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.

Soil solutions

with Rohan Davies

Liquid nutrition in potatoes

Rohan Davies, Technical Agronomist at Incitec Pivot Fertilisers, discusses how liquid fertiliser can give potato growers flexibility and control of crop nitrogen management.



A guide to EASY N in potatoes

Crop Stage	EASY N rate	Nitrogen applied	Application method
Emergence & hooking	75 L/ha	32 kg/ha of nitrogen	Fertigation
Tuber bulking	120 L/ha	50 kg/ha of nitrogen	Fertigation
Late bulking to harvest	50 L/ha	20 kg/ha of nitrogen	Fertigation

Note: These suggested rates are a guide only. The product application rates are the total for the growth stage and may be split into smaller applications made on a weekly or daily basis. Individual nitrogen fertiliser decisions should be based on advice from your local agronomist in conjunction with soil test results and yield potentials. For fertigation programs, check the compatibility of other fertilisers before mixing with EASY N.

Applying too much of a crop's nitrogen requirement at planting can put the nitrogen supply at risk of potential losses, resulting in low soil nitrogen levels during periods of peak uptake later in the season.

Excessive levels of nitrogen can also negatively affect yield and tuber size.

Using a liquid fertiliser has the potential to improve crop nitrogen use efficiency with in-crop applications timed to match peak periods of demand by the crop.

An example is EASY N® fertiliser, which is suited for application during the growing season as it can be fertigated via irrigation equipment, giving growers flexibility with when, where and how to apply nitrogen.

Liquids are good for split nitrogen applications or 'little and often' applications that closely match crop nitrogen requirements and allow growers to strategically manage seasonal conditions.

EASY N® contains 42.5% (w/v) nitrogen in the urea, ammonium and nitrate forms, and has a lower potential for volatilisation losses than surface applied granular urea. The nitrate nitrogen is rapidly available to crops for quick responses.

A liquid fertiliser is also suited to precision agriculture as rates of application can be easily controlled, and placement can be accurate.

Application directions

Liquid fertilisers can be applied

by injecting into irrigation water using fixed sprinklers, drip/trickle or travelling irrigation systems.

While regular inputs can be made during tuber bulking, it should not be applied during the peak of flowering. Inject into fixed sprinkler irrigation systems toward the end of the irrigation shift. For example, irrigate for a number of hours, as required by scheduling, then inject the liquid fertiliser for 30 to 45 minutes,

and then flush for a similar time to finish.

For travelling irrigators, injection needs to be continuous.

Consider injecting lower rates over a number of irrigations.

If you are using EASY N®, it should be injected on a regular basis during the growing season to ensure even growth, desired cropping and tuber quality parameters.

Soil nutrition questions

Please send your soil nutrition questions to *Potatoes Australia*.

Email: info@ausveg.com.au

Phone: (03) 9822 0388

Potato profile

with René de Jong



Why does some seed perform poorly?

National Potato Manager at Elders Rural Services, René de Jong, discusses the importance of good potato seed storage management.

Before planting, the two main influences from storage conditions (including the effects on seed storage by the seed grower) are temperature management and airflow. Once the potential of the seed is harnessed, the value of your inputs (irrigation, fertiliser, agchem, fuel and labour) will improve dramatically.

Storage conditions

Seed storage is much more important than you may think, even before entering cool storage. Although there is the view, "most of the time the seed is pretty right", this does not mean that the seed was managed correctly by design, it just means some things happened to fall in place. The potential for better performing crops from seed is still very large.

Temperature is critical - Heat is your biggest enemy. Seed that is exposed to varying and excessive heat will result in weakened plants. If you want to store seed for a long time to grow a decent crop, it should not be exposed to excessive temperatures (above mid-

teens) or even left in moderate but fluctuating temperatures (mid-teens). Part of the issue is understanding what the seed grower has done to the seed before you receive it. As such, communication is paramount. If seed has excessive sprouts in length, then it will be weakened more than seed which has shoots only 1cm long at planting. Such weakened seed will emerge unevenly, grow smaller tops, produce smaller tubers and die more quickly.

Solution - Communicate with your seed supplier before and during seed storage about these issues, and reach an agreement on what is required. If you want to keep sprouts under control, move seed into cool storage as soon as possible after harvest.

Fresh air and temperature management - Management of air and temperature during seed storage is critical and often not considered enough in the storage equation. Do you know what your air circulation is like for stored seed? How many cubic metres of air is replaced per hour for every tonne of seed? If you're not sure, then find the answers to

these questions. You need to not only get oxygen into, and stale air out of the seed stack, but you should also aim to reduce seed temperature down to its holding temperature in a measured way over a 4-6 week period, and conversely, increase its temperature slowly in readiness for planting. This process requires planning and a well designed and automated ventilation system to transfer heat (evenly from the stack) out of the coolstore. If you cannot feel any air flow in your cool storage when the fans are on, then it is not being managed to a high standard. An active ventilation system that is running should create a light draught that you will feel in most places in the coolstore. Fan capacity should be capable of replacing around 80 cubic metres of air per hour, per tonne of potatoes.

Solution - Check your seed storage air flows. If you do not have an active ventilation system, get one! Ideally, you should install an active, temperature managing, automated air ventilation system capable of replacing around 80 cubic metres or air per hour, per tonne of seed. Bin stacking

plans in the coolstore must also be made and managed correctly as part of the solution.

Good seed performs

The period after planting will test strong and weak seed. We all understand the effects of heat or cold, and water (lots or not enough). This phase will test how strong the seed is and whether it can cope with these conditions. Any setback of the seed's integrity will affect the resulting crop if conditions are volatile.

The seed piece can support the growing plant for up to seven weeks after planting. As such, if the seed is compromised, so too will the crop. If you keep the seed strong and healthy, it will reward you with higher yields of better quality market potatoes. Ultimately, that's what it's all about.



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World Potato Congress 2012

With an outstanding line-up of leading international researchers and prominent speakers, the 2012 World Potato Congress will be an informative and exciting event for those in the potato industry.



Taking place every three years, the World Potato Congress attracts delegates from the various potato industries around the globe. Presentations will be made by prominent individuals and researchers from the industry which includes speakers from Australia, Canada, Scotland, China, New Zealand and South Africa. The World Potato Congress is an educational experience, a forum in which to compare and contrast domestic practices with those of international counterparts, and an excellent opportunity for networking.

Quality seed

Dr John Kerr from Science and Advice for Scottish Agriculture (SASA) will be speaking about the role seed certification plays in healthy crops. Scottish seed producers will be able to view seed certification data in real

time in 2012 through the latest online roll-out of Scotland's certification scheme.

"MySpuds is an on-line database which will help seed suppliers improve quality in the

supply chain, and allow them to meet individual customer requirements better," said Dr Kerr.

"Applicants will have instant access to certification data on all their crops as soon as it is filed by the inspector. This will give them enhanced control over their crops. A complete

record of that data will be compiled and stored in one place, including virus, blackleg and off-type levels in the growing crop and the presence of rot, skin-finish diseases,

damage and mis-shapes in tubers," he said.

Dr Kerr stated that individual growers producing seed for applicants will also be able to access their own field data. Suppliers can provide findings to customers, allowing them to check that seed quality really is as described.

“ Making use of high quality, early generation seed...will present new opportunities for exports ”

Developing markets

With emerging markets on the horizon, one focal point of the speaker sessions will be presentations on new export opportunities for the international potato industry. Seed exports from Great Britain to Egypt reached record levels for the second year in a row, exceeding 40,000 tonnes in 2011.

"There will be more emerging markets, like Vietnam, Iraq and possibly Libya and Pakistan," said Dr Kerr.

Making use of high quality, early generation seed which can be grown for two generations and help reduce the reliance on poor farm-saved seed, will present new opportunities for exports said Dr Kerr.

"This could provide good opportunities for businesses prepared to tap into these markets" he said.



Dr John Kerr, Science and Advice for Scottish Agriculture.



Dr Anton Haverkort, Plant Research International.



Examining the role of seed certification in producing healthy, profitable crops, Dr Kerr will also discuss the development of a global certification standard to aid the movement of seed.

Futuristic agronomy

Delegates of the World Potato Congress will learn more about an innovative approach to crop monitoring through the use of satellite technology to deliver state-of-the-art crop monitoring systems.

In an effort to assist producers to improve crop agronomy and increase profit margins, the technological capabilities for remote crop sensing are now being further developed for use in the industry. Growers will be shown 'real-time' demonstrations of the technology and how it can be implemented on-farms.

Sustainability in the potato industry

With rising production costs and an increasing world

population, the sustainability of the international potato industry has been the topic of many discussions in recent years. Dr Anton Haverkort from the Netherlands-based organisation, Plant Research International, will discuss organisations in the supply chain placing a greater emphasis on the future viability of the industry.

"The global population is set to peak at 9 billion by mid-century. The diet of that population is also changing to include more meat, and the need for land, water and energy

will rise steeply."

"This, together with adverse affects of climate change in some areas, may mean the footprints of land, water and energy may become too large to sustain food production in the long run," he said.

Dr Haverkort stated that consumers will continue to reduce the footprints they expect their suppliers to operate within.

"Sustainability is a movement, a continuous change...when it becomes the norm for most producers, the limits may be tightened and the shift goes on," he said.

Industry advancement

With several meetings being held in conjunction with the WPC, one such event will see certification officials from the United Nations Economic Commission for Europe meet to discuss the synchronisation of trading standards. The conference will investigate ways in which improvements can be made to the collective understanding of what seed potato quality means in the context of trading relationships.



Name: Aaron Haby

Age: 38

Location of farm: Walker Flat, South Australia.

Potatoes farmed: On our property we farm about 300 acres of Nadine potatoes for the premium wash market. All of our produce is trucked to be washed at Virginia, through Mondello Farms. Our farm also grows about 150 acres of red and brown onions, which we pack through Rivapak at Mannum.

Role in company: My role on our family owned farm is Production/Irrigation and Growing Manager. This requires me to always keep the water flowing, to order fertilisers, chemicals and seed, continually monitor our crops, and generally to keep things running.

How did you get involved in the industry?

In 1995, our next door neighbour thought we had the ideal land for producing premium potatoes and onions. The Griffiths family then partnered with us for five years and showed us what could be done with irrigation. It was a lot more rewarding than broad acre farming. Our average rain fall is 250 mm.

What is your average day like?

Busy! But it always starts with spending some time getting our daughter ready for school. Water is an important part of my day. In the morning, I check that all crops were watered overnight. Night time watering is optimal as it reduces evaporation and pumping costs. I then check all of the crops, looking at their health and growth, assessing how much water they are using, and decide which ones need to be watered next. Although summer crops require a lot more water, you are rewarded with a faster growing crop, and in most cases, a much higher yielding crop. Once that's under control, I will then catch up with our employees, reaffirming with them plans that we have set in action for the week. At the moment it is onion harvest, so I could be slashing onion tops, fixing flat tyres on forklifts, or

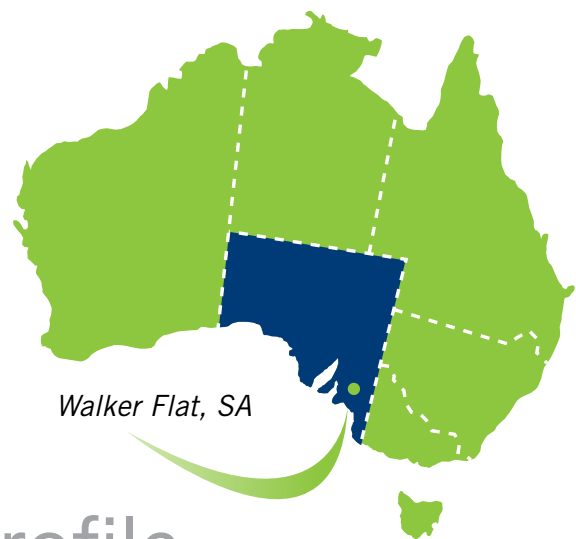
whatever needs to be done to make the day run smoothly. There is always plenty to do, not to mention lots of phone calls organising things. I am usually home by 6:00pm, then after tea, I have to go and start the pivots, usually around 10:00 pm. This could take up to an hour.

What do you like most about your job?

The best part about the job is watching a good healthy spud crop grow; they grow by the hour if you get it right. And then to harvest the fruits of your labour just makes it all worth it. I really love when people let you know that our spuds are the best ones they have ever tasted. It is also great that we can support local families by employing them to help us keep the business growing.

How do you think young people could be encouraged into the industry?

We have to start at school level and raise the awareness of agriculture. Helping children to see that growing produce, particularly growing it well, is a great job - one that has different challenges every day and every year, and one in which we are always learning new things. The profile of farming is not that great, but in reality it's one of the



Q&A Young grower profile

Aaron Haby

most important professions. You can't do much without food! We really do need to lift the profile of agriculture in general, so it will make young people want to be a part of it.

What do you think could help ease the stress on growers?

A guaranteed price! (but that would take all the fun out of it). The biggest stress I have is that when a crop is planted you don't know what it will be worth at the end. I guess you need to have faith that it will be ok, but it's a bit hard to budget sometimes! Also, for us Murray River irrigators, a plan from the Government is needed. This would reassure us that we are valued and our country needs us to grow food.

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

I have done an apprenticeship as a motor mechanic, so I could be doing that. Truck driving is another thing. I have always loved driving around seeing the country side and meeting new people.

What do you think is the biggest threat to the potato industry?

A decline in buyer consumption. Our answer, as an industry, should be to find more low GI varieties that grow well in our climate. Government funding towards R&D, and therefore good sound researchers for the future of our industry, is also really important. A lot of other things that are not just affecting our industry, but all primary industries, are fuel prices/freight rates, the carbon tax, imports from overseas of a lesser quality, and the rising cost of production.



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AUSVEG National Convention, Trade Show and Awards for Excellence 2012

Where: Hobart, Australia

What: Now the biggest event of its kind in the Australian horticulture industry, the AUSVEG National Convention showcases speaker sessions, exhilarating entertainment and an impressive trade show. Set at the Wrest Point Hotel-Casino in Hobart, the event will provide delegates with an opportunity to forge relationships with key members from the industry supply chain, researchers and vegetable and potato growers.

Further information: www.ausveg.com.au or email convention@ausveg.com.au

22-31 May 2012

World Potato Congress

Where: Edinburgh, Scotland

What: Hosted by the Potato Council, the event will span from May 27th to May 30th, bringing together over six hundred delegates from international locations including growers, producers, traders, processors and manufacturers. The Congress will enable a global exchange of information between the world's potato specialists on all aspects relating to the potato industry. Attendees will have the opportunity to take part in a number of tours to see developments in the potato industry in Scotland and visit local growing and production facilities.

Further information: www.potatocongress.org

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