

potatoes

australia

February/March 2014

**The Hon.
Barnaby
Joyce MP**

The Minister's view

Steve Rieniets
Young grower

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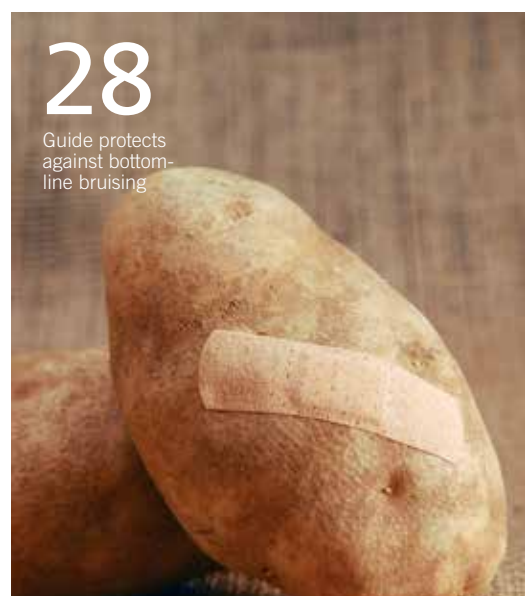
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AUSVEG Chairman and CEO messages



Geoff Moar

AUSVEG Chairman

As the first term of the Abbott Government rolls on in to 2014, AUSVEG, as Peak Industry Body, will keep you updated on pertinent goings-on in Canberra. On that front, there has been a number of noteworthy developments in recent months.

Early this year it was announced that during the final parliamentary sitting week of March, the Coalition will be seeking to abolish more than 8,000 redundant federal laws during 'repeal day' – a mass slashing of red and green tape. The Hon. Josh Frydenberg MP, who opened AUSVEG's new premises in late 2013, has been charged with implementing the Coalition's deregulation agenda.

With such a large volume of legislation set to be targeted, it is inevitable growers will be affected. AUSVEG is therefore seeking feedback from all growers about the red and green tape they would like to see cut as part of the Government's commitment to ease the bureaucratic burden on business.

On another issue of great importance to growers, the Government is forging on with work on the Agricultural Competitiveness White Paper. With this document that is set to shape the direction of Government policy in our sector for years to come, due to be finalised by year's end, Federal Agriculture Minister Barnaby Joyce appears in the pages of this very magazine, encouraging growers to familiarise themselves with the White Paper process, and to involve themselves in it. AUSVEG representatives have

already had an initial meeting with those preparing the White Paper in the Prime Minister's Department.

In internal AUSVEG news, it gives me great pleasure to welcome Mr Geoff Knuckey as a new non-Executive Director. With a well-respected background in finance and management, Mr Knuckey joins the Audit Committee as one of the company's independent Directors.

He replaces Mr Mark Napper, who stepped down after accepting a position on the Board of Directors of Horticulture Australia Limited. In welcoming Mr Knuckey, I would also like to thank Mr Napper for his outstanding efforts during his four years on the AUSVEG Board of Directors and wish him all the best in his new position.

In signing off I would also like to remind growers to keep up-to-date with activities linked to the Potato Extension Program in 2014. At this stage planning is well underway for the first workshops of the year to be held in South Australia, Tasmania and Queensland over the next few months. Full details of upcoming events will be provided in the AUSVEG *Weekly Update* and *Potato Insights* (e-Newsletters), and via the AUSVEG website.

Geoff Moar
Chairman
AUSVEG



Richard Mulcahy

AUSVEG Chief Executive Officer

The task of accessing and developing new domestic markets can prove challenging for many potato growers. It is therefore logical that producers should be looking further afield for opportunities.

As the world becomes increasingly interconnected, Asian middle classes continue to grow and new markets are rapidly emerging. With politicians now regularly referring to the potential role Australia could play in 'feeding the world', clearly there is growing consensus that exporting could indeed pave the way forward for our industry.

However, taking those first tentative steps in to the export market, particularly while contending with increasing cost pressures from labour, utilities and other overheads at home, can seem daunting.

Given the important role exporting looks set to play in the future of our industry, AUSVEG, as the Peak Industry Body representing Australia's almost 9000 potato and vegetable growers, will embark on a concerted push to help producers access overseas markets in 2014.

In news that should be welcomed by Australia's potato growers, the Federal Government late last year announced it had reached a Free Trade Agreement with South Korea. Once implemented the FTA will result in the removal of the existing export tariffs on potatoes (as well as several other horticultural commodities) to South Korea, which can currently be as high as 304 per cent.

In the wake of that pleasing

breakthrough, growers can rest assured AUSVEG will keep them updated on further developments on the export front. With the deal struck with South Korea, developments in negotiations between Australia and other nations, especially in the Asian region, should prove particularly interesting as the year progresses.

In other exciting industry news, I am pleased to announce the inclusion of Federal Agriculture Minister Barnaby Joyce in the speakers line-up at the 2014 AUSVEG National Convention, Trade Show and Awards for Excellence in Cairns. The Minister, who is profiled in this edition of *Potatoes Australia*, will join other recently-confirmed speakers, Alexander Tokarz, Syngenta's Global Head of Vegetables, and Barry Bull, Yara's Agronomic Competence and Training Director.

These key figures in our industry will undoubtedly provide plenty of valuable insights to delegates and I am delighted to have them on board. I would urge anybody who is yet to register for the event, to be held at the Cairns Convention and Exhibition Centre from June 19 to 21, to do so now by visiting www.ausveg.com.au/convention.

Richard J Mulcahy
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**FRONT COVER:**

The Hon. Barnaby Joyce MP

Photograph by John McRae

Editorial



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North American
Growers' Tour

Despite the undeniable challenges facing the Australian potato industry, new opportunities exist for those seeking them. One such opportunity comes in the form of the Agricultural Competitiveness White Paper, which is currently being prepared by the Australian Government. In this edition of *Potatoes Australia*, Federal Agriculture Minister, the Hon. Barnaby Joyce MP, explains the process behind preparing this crucial document, and encourages growers to have their say (page 12). During an expansive interview, Minister Joyce also discusses policy, and his views on the agricultural sector, including his desire to put 'more dollars' into growers' pockets.

One person who appears to have little trouble identifying opportunities is Tasmanian grower Leigh Elphinstone, who

is also profiled in this edition (page 24). Leigh explains that although the substantial growing operation he runs with his parents in Tasmania has diversified to include other commodities, potatoes have been, and will remain, the 'backbone' of the operation. His optimistic disposition may in part be attributable to his ongoing investment in on-farm technology and equipment, as well as his keeping a keen eye on R&D advances and the potential productivity enhancements that they can bring.

Still on opportunities, an in-depth examination in to the state of play in the potato export market is included in this edition of the magazine (page 18) as part of the Potato Extension Program column. In other Potato Extension Program news (page 21) we reveal plans for

the release of a series of audio podcasts - 'Spudcasts' - which will allow growers to download and listen to the latest industry and R&D news on their wireless devices. Preliminary plans for the first of this year's Potato Extension Program workshops are also outlined.

Elsewhere in the magazine, Steve Rieniets from Victoria discusses his experiences as a young grower (page 16) and

we outline the latest news on speakers for the 2014 AUSVEG National Convention, Trade Show and Awards for Excellence in Cairns from June 19 to 21 (page 8).

In international news, we provide details of a new guide to minimising damage to potato crops developed by the UK Potato Council (page 28), and examine the world's largest potato library in Peru (page 26).



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Steve Rieniets

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Stellar speaker line-up grows ahead of 2014 AUSVEG National Convention



Delegates at the 2014 AUSVEG National Convention, Trade Show and Awards for Excellence will have the chance to hear from a prestigious line-up of industry leaders covering a range of topics, including recent research developments, and the potential of Australian horticulture.

Once again, the AUSVEG National Convention is attracting worldwide attention with a number of international guests already confirmed to speak alongside domestic experts as part of the program. Leading industry figures from Europe, Asia and the United States will all travel to Cairns in late June to share their vision for horticulture.

AUSVEG is delighted to announce that Executive Chairman of VISY, Anthony Pratt, will share his views on the industry during the 2014 Convention as a Keynote presenter. Splitting his time between Australia and the United States, Mr Pratt is the head of one of the world's most recognised packing and recycling companies. VISY currently employs more than 9,000 people worldwide, including over 4,000 in the United States.

Mr Pratt has a long history of involvement in the Australian horticulture sector and has stressed the importance of support from other industries to ensure its long-term viability. He has also previously expressed his vision for Australia to

become the 'food bowl' of Asia, identifying the need for more food producers to incorporate exporting into their businesses in order to enhance their competitiveness. With approximately 70 per cent of VISY's customers operating within the food sector, Mr Pratt is firmly committed to ensuring the future of Australian horticulture.

Providing a global perspective, Alexander Tokarz, Head of Vegetables at Syngenta, will travel from Switzerland to address delegates. With over 10 years of industry experience, Mr Tokarz is sure to enlighten attendees with his views of the industry. A strong believer in Syngenta's key focus of sustainability, Mr Tokarz has previously argued that sustainability must be looked at together with productivity and profitability, rather than viewing them as mutually exclusive.

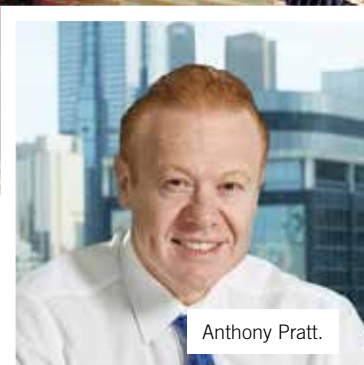
Joining the international line-up is Christine Brunel-Ligneau from Bayer CropScience. Currently based in Germany, Ms Brunel-Ligneau works with the entire value chain to achieve the sustainable sourcing of crops. She also developed the Bayer Sustainability Radar for measuring and monitoring the contribution of food chain partnerships towards sustainable production. This program is now being implemented worldwide. Ms Brunel-Ligneau has addressed industry members at various conferences and events

around the world, and spoke to Australian growers at Asia Fruit Logistica in Hong Kong as part of the 2013 Young Grower Tour. She also presented to visiting Australian growers at the Fruit Logistica event in Berlin in 2012.

Barry Bull, Agronomic Competence and Training Director for Yara International, will provide a technical session for delegates. A revered expert in the field of crop nutrition, Mr Bull has worked in the industry for over 40 years, beginning his career with the South Australian Department of Agriculture. Currently located in Singapore, Mr Bull is regarded as something of a 'guru' within the industry and delegates will be able to benefit from his extensive knowledge and experience.

AUSVEG is also excited to confirm that the Hon. Barnaby Joyce MP will address attendees during one of the Keynote sessions. Less than a year into his term as Federal Minister for Agriculture, delegates will have the opportunity to listen first-hand to Minister Joyce's priorities for the sector and his commitment to ensuring the success of horticulture within Australia.

Minister Joyce, who is profiled in this edition of the magazine, has already outlined his plans for 2014, including the development of a White Paper looking at the competitiveness of the agriculture sector and ways to boost its productivity



Anthony Pratt.



The Hon. Barnaby Joyce MP.



Christine Brunel-Ligneau.

and profitability. His address will be a must-see for all delegates attending the 2014 AUSVEG National Convention.

With an impressive array of speakers already confirmed, delegates are sure to receive plenty of 'food for thought' at the 2014 AUSVEG National Convention.

Special editions to tackle the issues that matter

There are plenty of themes and topics in the Australian potato industry which are worthy of analysis and discussion. While the point of this magazine is to communicate and cover as many of these issues as possible, there are undoubtedly some things which require a more prolonged and in-depth examination.

With this in mind, we are pleased to reveal the next (April/May) edition of *Potatoes Australia*, will herald the return of a specially-

themed publication, providing comprehensive analysis of all things seed potato-related. The decision has been taken as a result of the vital role good quality seed and correct management plays in the development of healthy and high-yielding potato crops.

From grower profiles to challenges facing the sector, to varieties, to research and development breakthroughs, the special edition will contain a raft of crucial information for those with a specific interest in

this all-important element of the Australian industry. Be sure to keep an eye out also for plenty of tips for growers negotiating the intricacies of growing and managing seed potatoes.

Researchers who have carried out specific work on seed potatoes will also have an opportunity to communicate their findings, while the themed edition will also focus on businesses with a particular expertise in the field.

The themed edition is looming as a must-read for anybody with an interest in seed potatoes and will be complemented by two special editions of this magazine's sister publication, *Vegetables Australia*, in coming months.



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Trade Show and Awards for Excellence



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Contact **AUSVEG** to register (03) 9882 0277 or convention@ausveg.com.au

This event is not included in full delegate registration and must be registered for separately. Attendees must be registered for a Convention event.

Ask the industry

Crop desiccation tips when using diquat



with Scott Mathew

TECHNICAL SERVICES LEAD AT SYNGENTA, SCOTT MATHEW, EXAMINES THE BEST WAY TO APPROACH CROP DESICCATION AND OUTLINES STEPS TO AVOID STEM-END BROWNING.

Crop desiccation can play an important role in ensuring the productive and timely harvesting of potatoes. Due to a number of factors, there can sometimes be a little bit of variability in how well diquat (REGLONE®) desiccates potato crops.

Which is the best way to approach desiccation this season?

Climatic conditions at the time of application, such as hot and dry weather, will reduce the desiccation result achieved with diquat. If experiencing these conditions, you should either wait for the conditions to improve or consider making the applications either in overcast and cool weather, at the end of the day, or at night to help maximise its performance. Also, younger or more vigorous crops or varieties with an increasing leaf area will be harder to desiccate than a crop which is mature or beginning to senesce.

Diquat acts rapidly on the green parts of all plants and is locally systemic. To achieve the best results, an even, complete coverage and good penetration of the spray into the target foliage is necessary. When the potato canopy is dense and there are large numbers of weeds present, this can sometimes be difficult to achieve and nozzle selection is important. The Syngenta Potato nozzle and Syngenta Twin AI nozzle are both proven to be highly effective for application in this situation. Application should be made using 3L–4L/

ha of REGLONE (always add AGRAL at 200mL/100L of water). You can use up to, but do not exceed, 4L/ha of REGLONE per crop.

Some growers ask if they can use paraquat with diquat-based products for desiccation. The answer to this question is a resounding, no. The only chemical registered for this purpose in Australia is diquat 200g/L and paraquat-based products are not registered in Australia for this purpose. The SPRAY.SEED® label, for example, carries the specific warning: “DO NOT use SPRAY.SEED 250 for potato haulm desiccation.”

Off-label uses, particularly in the late stages of crop development and around harvest, can pose a real risk of residue in the harvested potato crop, as well as being unlawful. Some growers also talk about the possibility of diquat causing Stem-end browning (SEB) but, in fact, any form of rapid potato haulm desiccation can, on occasion, cause a discoloration or browning of the tuber vascular ring, regardless of the method used. SEB specifically 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 the application is made during high temperatures when tuber dehydration is likely to be at its highest point, all pose a greater risk of SEB developing. It is a myth that this problem is specifically related to use of diquat.

How can we avoid any issues with SEB?

By using the Soil Moisture Assessment for REGLONE Treatment - or SMART test – growers have a simple, practical field test to assess soil moisture and potential crop stress. The SMART test should be used to assess the correct application option for diquat. To carry out the SMART test:

1. Dig down and take a soil sample from the centre of the ridge, 5 cm below the deepest tuber.
2. Gently squeeze the soil sample into a ball with your hands. If it is sufficiently moist to pass the SMART test, it will remain as a ball. If it collapses, then it has failed.
 - a. Repeat at several points across the paddock, especially the drier areas.
3. If SMART test is fail/borderline, you should consider irrigating to increase the soil moisture content.
4. If the SMART test is a pass, you can choose the rate of diquat depending on the haulm condition.



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.



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Sydney Markets' Head of Operations Shane Chester (centre) introduces Minister Joyce to grower and Sydney Markets Director Billy Lee.

The Minister's view

JUST A FEW MONTHS INTO HIS ROLE AS MINISTER FOR AGRICULTURE, THE HON. BARNABY JOYCE MP HAS DISCUSSED HIS VIEWS ON THE SECTOR WITH *POTATOES AUSTRALIA*.

One of the key points within the Coalition's Policy for a Competitive Agriculture Sector is the commission of a White Paper on agriculture. What will the Government seek to examine in this White Paper?

The Government has committed to developing a White Paper on the competitiveness of the agriculture sector, looking at ways to boost agriculture's contribution to economic growth, trade, innovation and productivity by building capacity and increasing profitability at the farm gate. A taskforce has been established within the Department of the Prime Minister and Cabinet to develop the White Paper over the coming 12 months.

I think that the White Paper is going to be a big project for me this year. People should understand how it works so that they know how to be a part of it. It starts with an 'issues section' where we get all the issues on the table. Then it goes to the Green Paper where a number of alternatives are placed out. Then you get the White Paper

at the end of the year which is the alternatives you have chosen. Everyone should have some interest in it because it's your life. Ultimately it ends up as legislation and drives the way the decision goes. Your trading terms, access to finance, how farmers are being dealt with, transport, logistics – all these things are part of it.

The Coalition has also announced that it will provide \$100 million in additional funding for Rural Research and Development Corporations. How will this benefit the wider horticulture industry?

The \$100 million funding boost will yield benefits to a range of agricultural industries, including horticulture, for some years to come. The additional funding will provide greater capacity for the rural research and development corporations to deliver cutting edge technology, continue applied research, and focus on collaborative innovation and extension. It also presents an opportunity to fund collaborative research projects on a scale that may

not be achieved through existing institutions or research initiatives.

What do you consider the most significant current threats to the Australian horticulture industry?

The biggest threat is an oversupplied market, which lowers prices and therefore the return to the grower. The Australian domestic market is capped by the size of our stomachs so as our horticultural industries increase their productivity, establish new enterprises and expand production, export markets must be developed to take that extra produce. The future of the Australian horticultural industry is therefore strongly linked to gaining and maintaining market access, particularly China and Indonesia, which are high priorities for the Government.

Also, the drought facing many Queensland farmers is a stark reminder of the importance of water availability to agriculture in our naturally variable climate. The Australian Government is investing significantly in research and development to optimise water use efficiency,



recognising its importance to farm business profitability and productivity.

One of the major issues facing agriculture is a lack of young people joining the industry. What is it about agriculture that keeps people away and how do we get people interested again?

Agriculture faces a number of challenges in attracting new entrants, due in part to poor awareness of agricultural career pathways. To help address this, the Government is providing \$2 million for a program that helps teachers better understand and teach students about the products and processes associated with food and fibre production - as well as the diversity of careers available in the industry.

With the cost of domestic potato production

increasing and an increasing number of foreign imports coming into the country, how will the Government support the local industry?

We are committed to cutting red tape and removing unnecessary regulation, which will make the local industry more competitive. We are going to get rid of the carbon tax. I know many horticulture farms rely on electricity to run cool rooms, packing lines or

irrigations pumps. Getting rid of the carbon tax is going to put money straight back into growers' pockets.

We want to reduce red tape and fast-track the registration of new agvet chemicals and the review of registered chemicals. My first step will be to introduce legislation to remove the previous Government's re-approval and re-registration scheme for agvet chemicals before it commences on 1 July 2014. In addition we have committed \$8 million to improve access to agvet chemicals for minor and

specialty uses – which I know has been a problem in many vegetable crops. We will cut the company tax rate by 1.5 per cent, which will see Australian agribusinesses paying a new lower rate of 28.5 per cent from 1 July 2015. This will put more money back in to growers' pockets, which is going to help them to invest in the future growth of their farm businesses.

The Australian potato industry is shifting focus to capitalise on opportunities for export to neighbouring countries. How is the Government supporting export development?

It's a priority for this Government to reduce market barriers and commit to comprehensive Free Trade Agreements (FTAs) so that Australian producers can capitalise on these opportunities. The Government is working quickly to finalise bilateral trade agreements with China, Japan and Korea. Korea is an important market already for potato producers and we want to build on that.

Horticulture Australia Ltd and AUSVEG have recently released a discussion paper on Australian vegetable export opportunities, which is designed to stimulate discussion amongst growers about exports. The Australian Government provided matching funding for this important project.

Australian potato produce is amongst the safest and best quality in the world. How will the Government ensure the country stays free of dangerous pests and diseases?

The biosecurity system relies on governments, industry, businesses and the community working together to protect our agriculture sector by minimising biosecurity risks, including prevention of the illegal entry of planting material which poses a significant biosecurity threat. The risks of exotic pests and diseases of planting material entering Australia via regulated trade are minimised by rigorous biosecurity protocols including post entry quarantine.

The Coalition has announced policies to increase regional telecommunications services through the National Stronger Regions Fund. How will this policy work and how can it help agriculture?

In terms of regional telecommunications, under the Mobile Black Spot Programme, the Government will provide \$100 million to ensure outer metropolitan, regional and remote communities have access to wider and more reliable mobile phone coverage. Expanding mobile coverage in regional Australia offers potential benefits for farm safety and for the productive capacity of farm businesses.

Under the National Stronger Regions Fund we will invest \$200 million each year in local capital works projects to improve local communities. This will help communities with poor socio-economic circumstances and higher than average unemployment, by improving local facilities, creating local jobs and building needed infrastructure.

What will your priorities be for 2014?

My priorities always are to get a fair return to the farm gate, that's my job. Since becoming the Agriculture Minister it's like taking over a new business. I'm really happy with the movement we've made in areas of agriculture. Free Trade Agreements have been a good outcome to try and get more Australian product moving. The focus is to make sure places like these (Sydney Markets) stay viable – that people are making a buck. It's making sure the farmers, the people who do the work out in the paddocks are being paid a fair amount and making sure the people who buy the product have the greatest capacity to access the product.

What are your goals as Minister for Agriculture?

I want to do what I can to put more dollars into growers' pockets. That's my bottom line.



Federal Agriculture Minister Barnaby Joyce does the rounds at the Sydney Markets.

“ I want to do what I can to put more dollars into growers' pockets. ”

- The Hon. Barnaby Joyce MP.



Photographs by John McRae.

Soil solutions



with Andrew Olley

Calcium and Magnesium strategies

IMPACT FERTILISERS' NATIONAL AGRONOMY SERVICES MANAGER, ANDREW OLLEY, EXAMINES STRATEGIES TO ENSURE A HEALTHY SUPPLY OF CALCIUM AND MAGNESIUM.

Potato crops require a consistent and balanced supply of both Calcium and Magnesium to produce optimal results both in terms of yield and, often more importantly, quality. Having a clear strategy for these two vital nutrients is important, as quick fix applications when problems arise in the crop are costly, and often yield/quality can suffer.

A soil test from a reputable laboratory is required to assess your soil's Calcium and Magnesium reserves. It will indicate whether application may be required. If so, the most cost-effective solutions for both these nutrients are preplant applications to lay down a base of nutrient. This means the crop can access the nutrients through growth periods as required.

Depending upon the pH of your soil, two options exist for a base of Calcium. These are Lime (Calcium Carbonate) and Gypsum (Calcium Sulphate), both of which can vary greatly in their purity depending upon source of supply. Lime is used when the soil pH is less than optimal and Gypsum when pH correction isn't required. Both of these

products require time to solubilise and react within the soil. Ideally they should be applied once per season to keep a level plane of Calcium supply, rather than apply large hits every few years.

Where Calcium and Magnesium are required and soil pH requires correction, options exist for the use of Dolomite (Calcium & Magnesium Carbonate) or blends of Lime and Magnesium Oxide. When Magnesium is applied in the oxide form, it has the advantage that it slowly becomes available over an extended time period and unlike Magnesium Sulphate, leaching losses are minimal.

In the event where only Magnesium is required, Magnesium Oxide, for slow release, and Magnesium Sulphate granules, for quick release, blended into the preplant or plant fertilisers, are very successful strategies.

Soluble and foliar applications of Calcium and Magnesium can be effective however their timing and rate is critical to achieve good results. These styles of products are many times more expensive

per unit of nutrient supplied. Where cost pressures are squeezing farm gate returns, careful assessment of their use should be considered. Care should also be taken when relying on solubles to be the basis for your Calcium and Magnesium program. Be mindful that they can create a spike in nutrients in the soil solution. Availability of other essential nutrients such as Potassium can be disrupted until levels stabilise over time after each application, which may affect the crop's development.

While advances have been made in nutrient forms and application strategies when it comes to Calcium and Magnesium supply, the 'old' methods of Limes, Dolomites and Gypsums etc. are still very valid means of providing consistent nutrient supply at a low cost base.



Please send your soil nutrition questions to *Potatoes Australia*.
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Q&A Young grower profile

Name: Steve Rieniets
Age: 27
Location: Blampied, Victoria
Title: Co-Manager
Works: V & S Rieniets
Grows: Certified seed and fresh market potatoes



Blampied, Victoria

How did you first become involved in the potato industry?

I am a fourth generation potato farmer so I've grown up on the farm and have always wanted to be a farmer. We have traditionally grown processing and fresh market potatoes in the past but with returns getting lower in those sectors, last season we decided to go down the path of growing certified seed potatoes.

What is your role in the business?

I am a partner in the business with my parents. My father, Vincent, and I manage the everyday running of the business together.

How would you describe your average day at work?

An average day really depends on the season at the time. We have a mixed farming operation so whether it's working with livestock, on the tractor, maintaining machinery, irrigating, grading potatoes or fencing, everyday there's a different job to be done.

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

I think that because no two seasons are the same, the

challenge of growing the crop to the best of your ability, and seeing all your hard work pay off when top quality potatoes leave the farm, gives you a great sense of accomplishment.

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

High input costs would be our biggest challenge. We are always looking for ways to reduce our input costs. There is a fine line between reducing costs without running the risk of reducing the quality and yield of the crop.

What do you see as the biggest threats to the Australian potato industry?

I think imports and some of the biosecurity stuff around that is a concern. Especially the Zebra chip disease. If it gets in it would be an absolute nightmare for seed growers as well as processing. If it gets in to the seed growers then we would have all sorts of problems trying to get it out and then for the processing, it would cause major headaches with quality downgrades and everything else. That's a pretty major threat.

How do you think more young people could become encouraged to take up jobs in the

potato industry?

I feel that currently there is a real lack of confidence in the industry due to high input costs and low returns. I currently work off-farm (as well) to supplement my income, so, if government could support Australian producers by having tighter controls on imported product and show that they are behind Australian producers then confidence in the industry will lift. That should give the younger generation encouragement to take up jobs in the industry, knowing they can make a decent living from the work they put in.

How closely do you monitor advances in research and development (R&D) in the potato industry, and

what role do you see it playing in your operation?

I am always looking at new ways to improve our operation whether they be, new techniques, technologies, varieties etc. They are all tools in helping increase yields and reduce inputs.

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

I think I would probably be working in the grain industry.

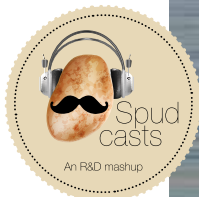
Where do you see yourself in five years?

In five years, I see myself working full-time on the family farm, producing high quality certified seed potatoes and continuing to try new things to improve on current techniques.



The export game: Challenges and opportunities for Australian potato producers

IN THIS MONTH'S POTATO EXTENSION PROGRAM COLUMN, WE EXAMINE THE POTENTIAL FOR GROWTH IN AUSTRALIAN POTATO EXPORTS.



The export potential of Australian food industries has been a hot topic in national politics over the past 12 months. Politicians of all stripes have queued up to spruik the opportunities for food producers to reap the benefits of a booming Asian middle-class, that is demanding an increasing volume of safe, high-quality food products.

Former Prime Minister Julia Gillard spoke of her vision for Australia to become a 'global food superpower', while current Prime Minister Tony Abbott has championed Australia's potential to become the 'food bowl' of Asia.

Australian potato growers, however, have responded to the hype with mixed feelings. Some in the industry have been sceptical that a significant increase in Australian potato exports can be achieved; doubtful that producers could realistically compete in these

markets profitably. For many, finding ways to alleviate the high cost of production in this country is also a critical first step before any real consideration can be given to the opportunities that may exist abroad.

Growers have also expressed concerns about their ability to secure consistent and reliable buyers in the Asian supply chain, and there are those who concede that they simply would not know where to begin, even if entering the export market seemed like a viable option for their business.

Given the challenges that the industry is currently facing domestically, it is little surprise that many members of the Australian potato industry have been wary of the 'opportunities' heralded by our Federal policymakers in Canberra.

Yet there are, of course, a handful of potato producers around the country who have

been exporting their products successfully for some time. And fresh potatoes are now the third largest fresh vegetable type exported from Australia – only behind carrots and onions – having increased by an impressive 244 per cent since 2007/08. So despite the understandable reservations, it is clear that some significant market opportunities for potato producers are beginning to emerge in Asia and elsewhere.

This has caught the attention of some of our major overseas competitors, who have also recognised the upward trend in demand. The United Kingdom and New Zealand potato industries, for instance, have taken some important measures to ensure that their potato producers are placed at the forefront of Asia's growing desire for quality potato products, which includes seed, ware and processing potatoes.

In August last year, after

several months of negotiation and dialogue with officials in Vietnam, the United Kingdom (UK) Potato Council announced it had reached a landmark agreement that would allow seed potatoes from Great Britain to be imported into Vietnam for the first time.

Part of the negotiations involved convincing Vietnamese officials that British seed potatoes would benefit the growers and supply chain of Vietnam - which has a population of more than 90 million people who are consuming more potatoes than ever.

Speaking about the deal reached, the head of seed and export for the UK Potato Council, Mr Robert Burns, said that the creation of this new market access would be extremely valuable for all involved.

"Middle class consumer numbers are rising in far-Eastern markets and they are demanding potatoes in their diet. The (Great



Britain) seed industry is now able to help Vietnamese growers increase the yields and quality of their potato crop by providing high-health, high-quality seed from Britain," he said.

The New Zealand potato industry is similarly looking to Asia, including Vietnam, to significantly boost the volume of potato products that it exports. Potatoes New Zealand recently announced a number of new initiatives that aim to promote export opportunities for NZ growers, and the industry has set an ambitious target of doubling the value of fresh and processed potato exports over the next 10 years. The new export initiatives include developing access to overseas markets, and providing training programs that will inform growers of how businesses operate in the export market.

Back in Australia, the Abbott Government's recent announcement of a Free Trade Agreement (FTA) that has been reached between Australia and South Korea, is likely to have significant implications for the Australian potato industry. Once implemented, the FTA will see the removal of the existing

export tariffs on potatoes (as well as several other horticultural commodities), which can currently be as high as 304 per cent.

The announcement of the FTA with South Korea is a positive and welcome development for the industry. It could open the door for a greater number of potato growers to access this potentially lucrative market, and presents a new or additional supply option for growers at a time when domestic business expansion opportunities seem to be rapidly diminishing. Australia exported \$6.3 million of fresh potatoes to South Korea in 2012/13, and with the FTA in place, many are tipping that the value of potato exports there has the potential to increase significantly.

Other countries in south-east Asia are also becoming important markets for Australia's fresh potato exports. Indonesia is currently Australia's largest potato export market, with a value of \$7 million in 2012/13, and there has been a growing market for Australian potatoes in Thailand, particularly in the past three years. Exporting opportunities also exist in



Malaysia, Sri Lanka and in the Middle East, amongst others.

Australian horticulture industries have been steadily responding to the growth in export opportunities. The Western Australian seed potato industry, for instance, has sought to increase its market share in the small island nation of Mauritius - located to the west of WA across the Indian Ocean - which increased its domestic potato production by some 69 per cent in the five year period between 2005-2010. The WA seed industry played an important role in this progress, making Mauritius a valuable market for many WA seed potato growers. A now complete levy-funded HAL project (PT09038) was undertaken to help increase the competitiveness of seed potato exports from Australia to Mauritius, through reduced seed costs and better adapted varieties, which has been hailed by growers in WA as a success.

The Australian vegetable industry has invested heavily in export-focused projects over the past 12 months, in a concerted effort to ensure that vegetable growers here are in the strongest possible position to capitalise on the export opportunities that exist. Funded by the National Vegetable Levy, with matched funds from the Australian Government, these projects have so far included the '2013 Reverse Trade Mission' (VG12101); and the

'Exporting to China Symposium' (VG12093). A raft of other export-related projects are also in the pipeline and are set to commence this year.

AUSVEG was recently commissioned to develop a practical and informative guide to exporting for Australian vegetable growers, which is part of HAL project VG13067, 'Exporting Readiness Program'. The program aims to equip vegetable growers with the knowledge and information needed to develop their exporting capabilities, and targets growers who have limited experience in exporting markets. As part of AUSVEG's undertaking to better connect

both the vegetable and potato industries with international markets, the preparation of the guide means the Peak Industry Body will be well-placed to assist potato growers access export opportunities in 2014.

Centred around the Question, 'Are you export ready?', the guide that has been developed highlights key areas that vegetable growers should be familiar with when considering getting involved in the export market. These include understanding target markets, logistical and production issues, marketing activities and financing matters.

Starting out in the export game is far from a walk in

the park, and like any serious business venture, there are some crucial factors that need to be considered prior to shipping off a container-load of potato products to an overseas buyer/market. Yet as the world becomes increasingly smaller, new markets continue to emerge, and knowledge-sharing flows readily, establishing a viable export component of your potato operation could be easier and less daunting than it may have once been. With the right information at hand and a clear strategy in place, exporting could well turn out to be a viable option for you and many other Australian potato producers in the years to come.



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

Spudcasts: Tune-in to Potato Extension Program Podcasts in 2014

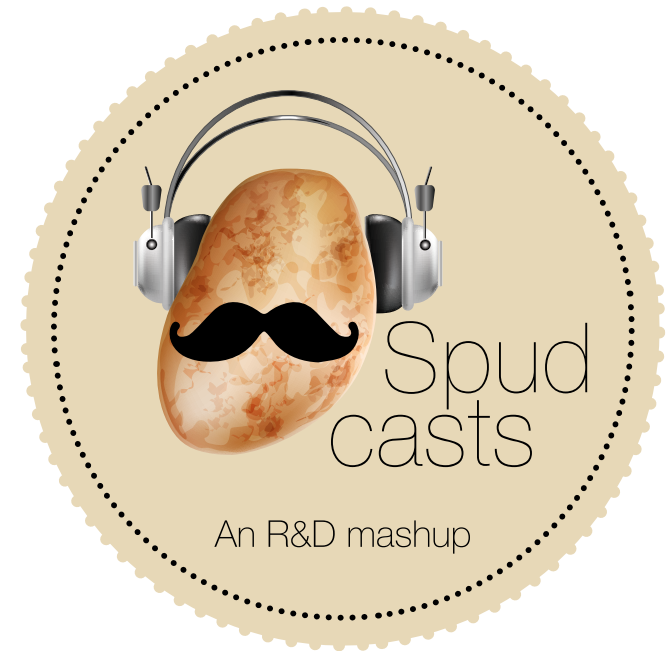
AUSVEG is pleased to announce the arrival of potato R&D Podcasts, as part of a trial that aims to provide a fresh and convenient way for growers to access current potato R&D information. Podcasts are essentially a series of audio episodes, similar to a themed radio program.

Aptly titled, 'Spudcasts', the audio episodes produced by AUSVEG as part of Potato Extension Program activities, will be available to industry members to either stream online from the AUSVEG website, or to

download as an MP3 (audio) file to listen to at time and location that is convenient for you. If you have a Smartphone, iPod or other portable media (MP3) device, you will be able to listen to the potato R&D Podcasts on these devices.

Growers can also download the audio file on to a USB stick for easy listening in the tractor or ute.

The Spudcasts will address a range of key issues affecting Australian potato producers, and will provide further insight into articles featured in *Potatoes*



Keep an eye out for the Spudcasts logo (above) in future editions of *Potatoes Australia*. All articles with an accompanying Spudcast will display this logo.

Australia magazine.

Covering the Potato Extension Program article on the previous pages, the very first Spudcast, now ready for streaming/downloading, is on the important topic of export opportunities for Australian potato producers.

To access this episode, visit www.ausveg.com.au/potatoes/multimedia.

Stay tuned for future Podcasts produced by AUSVEG and be sure to make Spudcasts your new favourite program on your wireless device!

Upcoming potato R&D activities

Following the completion of two successful years of potato R&D extension activities, AUSVEG is looking forward to delivering a raft of activities

in 2014 as part of the Potato Extension Program.

Over the next few months, workshops will be held in South Australia, Tasmania

and Queensland. Leading researchers and other potato experts will present at the events, discussing several key issues relevant to potato producers in these areas. Topics to be discussed will include:

- Potato virus Y.
- Best practice approaches to storing and handling potatoes.
- Potato skin and tuber quality issues and the importance of nutrition.
- Enhancing irrigation efficiency and managing soil salinity.
- Early blight management.

These workshops provide potato levy payers with a valuable opportunity to hear about the latest findings of potato research

activities, and to engage with some of Australia's leading potato experts. The events focus on the practical benefits that can stem from adopting new farming practices, and have a strong focus on agronomic issues, such as improving yields and enhancing on-farm efficiency.

Full details of upcoming events will be provided in the AUSVEG Weekly Update and Potato Insights (e-Newsletters) and via other correspondence.



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



Potatoes proving vital in the land of the maple leaf

FOLLOWING ON FROM A BROADER WRAP OF THE 2013 POTATO GROWERS' STUDY TOUR TO NORTH AMERICA, WE TAKE A SPECIFIC LOOK AT CANADA AND THE LESSONS THAT CAN BE FOUND THERE FOR AUSTRALIAN GROWERS.

Despite wildly different – but no less extreme – climates, comparable governments, economies and cultures mean Australia and Canada have much in common. Looking beyond our mutual ties to the Commonwealth, both nations also share rich horticultural histories, and a reliance on these industries for livelihoods, ongoing economic prosperity and food security.

During the recent Potato Growers' Study Tour to the USA and Canada, a group of 10 potato levy payers were provided with a first-hand insight into the practices employed, and challenges faced, by their far-North American counterparts. Although Canada and Australia may be half a world apart, it was found the issues contended with by farmers in both nations are fundamentally similar. From environmental factors to disease and virus management, to biosecurity issues, to research and development initiatives, the Canadian growers and researchers visited helped shed light on the common challenges faced by the two advanced

nations. The study tour was funded by HAL using the National Potato Levies, voluntary contributions from industry and matched funds from the Australian Government.

Disease protection, New Brunswick style

Having spent the first half of the tour examining operations in the USA, the group's first stop in Canada was the Fredericton Plant Propagation Centre. Attendees were met here by Dr Khali Al-Mughrabi from Potatoes New Brunswick. The centre was founded in 1983 and provides disease-tested tissue culture plants as micro tubers directly to growers. Importantly, all potatoes going through and ending up in the region are tested here.

The centre also operates the Canadian Potato Variety Repository. As the largest collection in North America after a site in the United States, the facility housed 425 varieties at the time of the tour, with between 15 to 20 strains added each year. The objective

behind the repository is to allow the rapid introduction of new varieties in the event of

catastrophic disease outbreaks. The centre prides itself on producing quality micro tubers,





Growers inspect a large-scale growing operation on Canada's Prince Edward Island.

and has not yet had an impure seed quality issue. Formerly, the site was completely funded as a public collection of potato varieties to ensure there was varietal supply to meet growers needs. Today, however, due to government funding cuts and the advent of intellectual property in potatoes, the centre now hosts a mix of public and private varieties in storage using

both government and private funds.

The next site visited was the Potato Research Centre, just a short drive from the propagation centre. Working in tandem with the propagation centre, the facility helps breed new varieties for growers, while also assisting them to be more productive, and providing performance information. A

Total Potato Production System (ToPPS), whereby at the end of every season field officers collect data from growers to get an indication about how the region is performing, has also been developed at the centre. By digging 10ft strips of earth while undertaking the tests, it is possible to measure virus issues, and rain quantities, and measure those against yield performance.

It's the law

The disease monitoring and management techniques developed and employed by those running the centres are just part of the approaches to disease, virus and biosecurity issues in place in the region. The enormity of the potato industry in New Brunswick, and its status as a major employer, mean it is critical to the local economy. As such, local government takes the protection of growers particularly seriously. Local policy initiatives such as the *Potato Disease Eradication Act*, established in the USA and Canada, enforces standards to try and control virus levels in potatoes, as well as other biosecurity and production issues. The policy means local growers can be fined or taken to court for not complying with strict biosecurity requirements. This is policed through enforcement teams, which issue court orders to comply with the Act. While some growers consider this to be over the top and "police-like" in nature, the Act gets results and has effectively suppressed viruses in the area, while ensuring the future of the industry and those who depend on it.

A rain-drenched country

Much like their Australian counterparts, Canadian growers must continually battle the elements to ensure their enterprises remain profitable. Unlike in Australia, the issues can often be too much water as opposed to not enough. Most potato growers on Canada's east coast don't have irrigation systems on

their properties because of the substantial annual rainfall. Given that rainfall is unpredictable and uncontrollable, local governments have invested significantly in weather prediction systems. In the New Brunswick region there are 35 weather observation stations and, when conditions prime for certain viruses or diseases, growers will get text messages informing them of issues likely to break out in the local area.

Island issues

Day seven of the tour involved a visit to Prince Edward Island (PEI) where, similarly to New Brunswick, potatoes are an enormous contributor (approximately CAD\$1 billion annually) to the local economy. As the largest potato producing province in Canada, PEI produces approximately 25 per cent of the nation's product and has its own potato growers' association (PEI Potato Board), which levies growers for marketing and promotional activities based on their production volumes.

Like Australia, the province's status as an island also provides it with a natural biosecurity barrier. Nevertheless, PEI authorities have adopted stringent measures to ensure the crucial industry is not unduly threatened by pests and diseases. To that end, empty trucks entering the island, bound for farms, are inspected for biosecurity contaminants, with the inspection site based around disinfestation. Every truck carrying potatoes leaving the island is also inspected for quality. Approximately five bags of potatoes per load are inspected. It is uncommon for trucks with shipments to be turned back but the association is determined to protect the island's potato brand and don't want to see it diminished.



An impressive storage room at the Fredricton Plant Propagation Centre in Canada.



Further Information:
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 Email: info@ausveg.com.au
 Project Number: PT12704

Potatoes form the backbone of Leigh's growing business



HAVING RETURNED TO THE FAMILY FARM AFTER BECOMING A QUALIFIED BOILERMAKER 12 YEARS AGO, LEIGH ELPHINSTONE SEES A PROMISING FUTURE IN POTATOES, DESPITE SIGNIFICANT CHALLENGES, WRITES ANDREW MACDONALD.

Leigh Elphinstone is well-versed in the ups and downs of potato production. Having returned to the family farm after completing a trade, he has spent the past 12 years working with his parents, Craigie and Jean, to ensure the business remains viable. Other commodities may have been incorporated in to the 300ha operation at Sisters Creek in Tasmania, but an ongoing focus on potatoes has ensured thousands of tonnes continue to be produced each year. Despite a multitude of challenges, Leigh maintains potatoes have been, and will remain, the 'backbone' of the business.

The setup

With about 40ha of the Elphinstones' operation dedicated to potatoes at any one time, Leigh says the family has been growing product for processing for decades. Currently, their operation

supplies about 3000 tonnes to Simplot annually, with a handful of smaller growers working with the larger operation to provide an additional 1000 tonnes to the processor.

"Potatoes have always been the backbone of our operation and dad has been growing for Simplot, for something in the realm of 30 plus years," he says. "Russet Burbank is our main variety and has been for a lot of years now. We also grow a few ranges of Russet as well and we're trialling a few new varieties that Simplot has like Bondi and Top Cat."

Though particularly wet weather set the operation back about two weeks this season, planting work generally begins in early October, through to mid-November. "From then on it is just growing, irrigating, spraying and all your general husbandry of the crop," says Leigh. "We probably don't start harvesting until around the middle of March. Generally most of our

potatoes are grown to go in to Simplot stores, to be processed later on."

A challenging environment

Raising three young children with his wife Alana, and contending with the multitude of external pressures facing the Australian potato industry, Leigh concedes dealing in the commodity isn't without its challenges. He cites the recent strength of the Aussie dollar as among the greatest barriers to profitability. "I suppose with the Aussie dollar being high in the past it has been pretty attractive for people to import produce, especially from some countries where there has been a bit of an oversupply so that has probably been the main thing, trying to be competitive with the imports when the dollar is very high," he says. "That is probably the main thing on our cost structure, with high labour costs and not too

many government incentives to help out growers like there is in other countries."

Diversification

In an effort to improve the sustainability of the business, Leigh says various other commodities have been incorporated into the operation, with varying degrees of success. Along with the 40ha of potatoes, the Elphinstones also grow poppies, onions, swedes and carrots.

"Potatoes have always been the mainstay and we've probably grown a little bit more of those in the past few years since I have been here but as far as the other crops, it has sort of gone up and down depending on circumstances," says Leigh.

"One thing is that we've just started growing a few other vegetables, joined forces with a couple of growers to supply the other markets. The viability or the profitability of potatoes has

been reduced in the last few years so we have been looking for some alternatives to keep our business sustainable.”

Potatoes in to the future

Leigh says he is determined to ensure potatoes remain the mainstay of the family operation, despite some tough circumstances. Proof of this can be found in ongoing investment in new machinery and technologies, in an effort to keep ahead of the game.

“We’re most definitely keen to see a future in potatoes,” says Leigh. “We’re investing in the industry by having all our own gear. We do ground-work, planting and harvest all our self, so that’s a fair investment for us. We also purchased a new potato harvester a couple of years ago, and we have our own potato planter as well as a couple of tractors that are really just for potato growing.”

Leigh says he also regularly checks for new R&D advances, with a view to incorporating them into his operation. This has included participation in a number of Potato Extension



Photographs by Belle Young.



Program activities.

“I definitely try to participate in any activities like that, I suppose to keep at the front of the game,” he says. “Most farmers are also just trying to look at newer technology and other ways of trying to reduce costs as much as we can to remain viable.”

Succession planning

At just a bit over three-years-old, Leigh’s eldest son Aiden, may be a few years off playing any significant role in the family operation. But having returned to potato growing himself after completing his trade, Leigh acknowledges an attraction to life on the land appears to run in the family.

“My old man has been farming all his life, so 40 plus years and, while I went away for a while and did a trade, I came back to the farm and I’ve been on the farm about 12 years,”

says Leigh.

“I have always enjoyed the farming and growing crops and everything else so I always thought I would come back. Most definitely I want to continue on and, I suppose if my children want to do what I’m doing, to have the opportunity for them to be able to do it as well. The eldest is just a bit over three and he loves coming out and helping me.”

Though the circumstances facing potato growers at times cause them to think not much beyond the next season, let alone the next generation, Leigh says he will always maintain an optimistic outlook.

“I think there probably is a future even if at the moment we think that there isn’t because it is so tough right now. But everything does go in dips and cycles and farmers are forever optimists and say ‘next season is going to be better’.”

International R&D Update



More than 10,000 samples of native potatoes are stored at the Potato Genebank.

Peru's Potato Genebank leading the way in research and conservation

AS THE HOME OF THE POTATO, PERU HAS PROVEN AN IDEAL LOCATION FOR THE WORLD'S LARGEST 'POTATO LIBRARY', WRITES FELICITY POWELL.

Potatoes are native to South America, with more than 2500 varieties grown in the Andes regions of Peru and Bolivia. Peru's Inca Indians first cultivated the crop in 200 B.C. and found many different uses for them - they were eaten with other foods to prevent indigestion, raw slices were placed on broken bones, and they were also carried around by people to help prevent rheumatism.

Potatoes were discovered in the region by Spanish conquistadors around 1537. They were subsequently introduced to Europe and the

rest of the world, becoming a staple vegetable for millions of people across the globe.

The International Potato Centre

With the origins of the potato rooted firmly in South America, it should come as no surprise that the global leading research facility, the Centro Internacional de la Papa (CIP), or International Potato Centre, is based in Lima, the capital of Peru.

The CIP was founded in 1971 as a research and development

institution, and now has offices in 30 developing countries across Asia, Africa, and Latin America. Those involved in the CIP aim to deliver sustainable solutions to the pressing world problems of hunger, poverty, and the degradation of natural resources.

Potato Genebank: the world's biggest potato library

The most significant department found within the CIP is the Potato Genebank. It was established in the early 1960s

by Dr Carlos Ochoa at the University Agraria La Molina. The Genebank became an official part of the CIP in 1973, to the point where it now houses the global collection of potato and sweet potato varieties.

Head of the Genebank at CIP, Dr David Ellis, says the facility was established to ensure that the diversity in wild and cultivated potato, sweet potato, and Andean root and tuber crops that underpin the global food supply is available to farmers, breeders and researchers for generations to come.

The Genebank's approximately 70 full-time employees work

to ensure the conservation of thousands of different 'accessions' of potatoes. Accessions are a genetically distinct clone or collection. Currently, there are 10,199 unique accessions stored at the genebank - wild, cultivated, and breeding material accessions.

Maintained as a global public good under the International Treaty on Plant Genetic Resources for Food and

Agriculture, CIP's germplasm is available for free to developing countries. It is used in breeding programs in over 100 countries.

Dr Ellis says it is very important to protect native potato varieties, making the Genebank a crucial part of the worldwide conservation.

"Native varieties have evolved or been selected to have resistance to insects and diseases common to the area

they naturally grow; hence they form one of the most valuable pools of genes that can be incorporated in commercial varieties through breeding efforts," he says.

"In addition to biotic resistances, [native varieties] have also evolved or been selected for enhanced, and in some cases, extreme tolerance to abiotic stresses such as drought, heat and cold."

preserving this missing diversity.

- Implementation of a high-quality potato cryobank (storage of plant material in liquid nitrogen at -196°C for future generations).
- Ensuring the survival of the germplasm in its present genetic make-up for a minimum of 100 years.

The future

It is evident that the work being undertaken at the CIP is significant not only for the research and development of the crop itself, but for ensuring future food security across the globe. Today, potato crops cover more than 19 million hectares of land worldwide, and are considered the world's third most important crop, behind rice and wheat. The potato is therefore an excellent candidate for helping combat impending food shortages worldwide.

"[Researchers at the Genebank] hope to conserve, characterise and distribute the bio- and agro-biodiversity of potatoes for use to improve humanity," says Dr Ellis.

"I guess [we] hope to ensure the genetic diversity used for crop improvement is still available to use by breeders and researchers in 100 years due to our efforts."

Photographs courtesy of CIP.



For more information go to:
www.cipotato.org



Potato projects

Researchers at CIP are currently working on a raft of fascinating new projects. These include:

- DNA fingerprinting of the collections and tying the molecular fingerprints and sequences to traits for enhanced characterisation.
- Providing tools for identifying gaps or missing genetic diversity in the collections and then obtaining and



Some of the interesting potato varieties native to South America.

Notice of 2014 Annual Potato Levy Payers Meeting

This is an official notice to all levy-paying potato growers advising that the 2014 Annual Potato Levy Payers Meeting will be held in June 2014 in Cairns, Queensland.

This is an important opportunity for potato levy payers to hear about the collection of the National Potato Levy, strategic priorities for the industry, and updates on current industry issues. It also allows growers to provide feedback on the levy process and R&D levy investment.

Where: Cairns Convention Centre, Cairns Queensland
When: Saturday 21 June 2014, 2:00pm-2:30pm

To RSVP, please email AUSVEG on info@ausveg.com.au.





Guide protects against bottom-line bruising

A NEW GUIDE RELEASED BY THE UK POTATO COUNCIL PROVIDES GROWERS WITH INFORMATION TO MINIMISE DAMAGE TO THEIR PRODUCE, AND ASSOCIATED MONETARY LOSSES.

The UK Potato Council has developed a comprehensive 30-page guide containing recommendations for minimising costly damage to potato crops during stages of the production process. Its release comes amid revelations damaged crops are costing the British potato industry approximately £200 (around AUD\$370) per hectare. The authors of the document have also been motivated by the fact consumers are placing increasing importance on the physical appearance of a product on the supermarket shelf. This means the industry is subjected to further cost

pressures if products are not deemed physically suitable for sale.

The guide covers multiple steps, from planning to packing, in acknowledgement of the fact there are many points throughout the harvesting and grading process where tuber damage can occur. The type of damage examined by the guide refers to bruising and cracking, both of which are caused by impact.

The easy-to-understand recommendations and tips have been designed to assist growers minimise damage without compromising field or crop conditions.

Points to consider

Appropriate planning, routine maintenance and adapting machinery settings to the conditions have all been identified in the guide as key areas where damage to potato crops can be reduced. The priority considerations covered in the document include:

- Making sure the harvester is well maintained and fit for work, as worn parts or a wrongly set up machine can cause major problems.
- Trying to maintain a low drop height on to a soft surface (not steel) during elevator to trailer/box transfers.

- Being mindful that correct settings for haulm removal rollers and guide fingers depend on crop conditions.
- Ensuring cleaning units, star wheels, spiral and axial rollers are well-maintained, and being aware good calibration is required.
- Being aware clod breakers and haulm rakes, particularly the former, can do serious damage.
- Only using as much agitation as required when considering web speeds and agitation. Try to keep soil on the primary web and have around 85 per cent fill of the secondary web.
- Being aware badly-aligned

shares, diablo rollers, applying too much downward pressure, gaps around crop retainers and discs can cause tubers to be crushed and sliced.

- Being aware web and elevator gaps can cause tubers to be pinched and damaged.
- Acknowledging crop susceptibility to damage will depend on variety, dry matter content, agronomy, weather and haulm destruction methods.
- Being aware the monitoring of damage levels is essential and that crops should be regularly inspected, particularly when changing crops and fields.
- If problems are found, be prepared to spend time reducing the damage. Sample at several locations on the harvester and spend time making adjustments to reduce the level of damage.

Assessing damage

As well as tips and recommendations for minimising bruising and cracking, the guide contains steps to assess damage levels, which will increase throughout harvesting and handling operations. The guide also suggests growers may wish to sample at more than one point during the harvesting process to identify causes. Before sampling occurs it is vital to ensure machinery is safe to approach. The guide suggests a sample should encompass 15 to 20 kg of tubers.

In order to examine a sample, soil and dirt should be carefully washed off before tubers are inspected and divided in to four categories. They are: undamaged, scuffed, slight or severe. Scuffed is defined as broken skin only with no flesh damage, slight means flesh

damage removable by two strokes of a peeler, and severe is defined as damage not removed by two strokes of a peeler. The guide also contains a template, which growers can fill in to determine the overall damage percentage.

While bruising on potatoes may take three or four days to appear, the process can be sped up by storing a sample in warm humid conditions, such as a hot box – set at between 34°C to 36°C and between 95 to 98 per cent relative humidity – overnight.

According to the guide, bruising assessments can be completed by carefully peeling around the tuber and looking for black/grey discolorations of the flesh below the skin. Bruising can be categorised as: nil, slight, or severe, with slight bruises able to be removed with two peels and severe bruises remaining after two peels.

Developing the guide

Claire Hodge, Technical Executive at Potato Council UK, says the process of creating the guide began 12 months ago, after initial contact was made with machinery manufacturers, such as Grimme UK, Standen and Tong Peal. Their feedback highlighted the need for accessible information for machine operators.

A number of short training videos have also been developed. These videos complement the guide, helping machine operators understand the importance of handling crops carefully.

“It’s a huge cost to our industry and the challenge is to get the guys that are doing the work to be aware of even small impacts,” Ms Hodge says.

“It has been a really enjoyable project to work on and we are looking to run harvester setting clinics this summer to assist machine operators in setting up machines for field conditions.”

The clinics will be held at the Potatoes In Practice 2014 event near Dundee, Scotland on August 7.



An inspection of damaged potatoes gets underway.

Photographs courtesy of Potato Council UK.



The guide and further information can be found at www.potato.org.uk/growing/bruising



The guide contains best practice techniques for potato harvesting.

Plan puts pests on the outer

A NEW PLAN DEVELOPED FOR THE POTATO INDUSTRY PROVIDES VITAL INFORMATION ABOUT IDENTIFYING AND RESPONDING TO KEY BIOSECURITY THREATS.

Late blight, golden, white or pale Potato cyst nematodes, Potato spindle tuber viroid, Bacterial wilt (brown rot) and Zebra chip disease. If they sound unpleasant, they should. These along with a selection of other nasties, are among a host of potato pests identified as posing among the greatest threats to Australia's potato industry. The roll-call of undesirables – some of which have reached our shores, others which haven't – features in the soon-to-be-released *Industry Biosecurity Plan for the Potato Industry*, coordinated by Plant Health Australia, in consultation with AUSVEG and the Commonwealth, state and territory governments.

The guide has been developed as a means of ensuring the future viability and sustainability of the Australian potato industry by minimising risks posed by exotic pests and outlining plans for responses to incursions.

About the guide

The comprehensive document is essentially a framework to coordinate biosecurity arrangements and investment within the Australian potato industry. It lays the ground for industry, governments and others to better prepare for, and respond to, incursions of 'emergency plant pests', which have the potential to devastate

the local potato industry. Its key aims are to provide potato producers, government and industry with the necessary information to:

- Evaluate the inherent risks within their current activity across the biosecurity continuum.
- Formally identify and prioritise exotic plant pests.
- Focus biosecurity efforts and risk-mitigation measures.
- Plan for future biosecurity challenges.

The threats

One of the key roles of an Industry Biosecurity Group (IBG) consulted during the development of the guide was the completion of 'threat summary tables'. They identify more than 70 exotic plant pests and the potential biosecurity threats they pose to the Australian potato industry. Overall risk ratings were given to each pest based on four criteria; entry, establishment, spread potential and economic impact. The process also resulted in the identification of the highest priority pests, which have been flagged for potential future research, surveillance, on-site biosecurity and awareness activities. In the current form of the guide, only invertebrate pests and pathogens have been identified, however, weeds may be considered in future incarnations.



Given the massive economic losses inflicted on New Zealand's potato industry, the Tomato-potato psyllid (TPP) and corresponding Zebra chip disease have been identified as among the most significant threats. With its known vector, the disease, which is spread by the TPP, rates 'extreme' both in terms of economic impact and overall risk.

White or pale, and golden Potato cyst nematode, Late blight, Potato spindle tuber viroid, Potato virus Y and Bacterial wilt have also been rated as 'high' overall risks.

The Black bean aphid, Colorado potato beetle, Serpentine leaf miner, Columbia root-knot nematode and False root-knot are among the pests rated 'medium' overall risk. Potato yellow vein virus, Potato virus S, Tomato black ring virus and the Stem and bulb nematode are some of the pests

which have been rated as 'low' overall risk. Some pests have also been rated as very low and negligible overall risk.

Staying vigilant on the farm

While the report also provides details of various monitoring and surveillance activities being carried out by state, territory and federal governments, the onus is also on growers to be mindful of potentially-devastating incursions. "A significant risk of spreading pests onto farms arises when propagation material, people, machinery and equipment move from property to property and from region to region," states the plan.

Given the identified risks, the manual also stresses the important role of on-farm monitoring for potential threats. It also provides details of reporting



“ A significant risk of spreading pests onto farms arises when propagation material, people, machinery and equipment move from property to property and from region to region. ”

- Industry Biosecurity Plan for the Potato Industry.

procedures and hygiene strategies to reduce risks. These include:

- Managing the movements of vehicles, farm equipment and people.
- Use of warning and information signs.
- Chemical and biological control measures.
- Control of vectors.
- Destruction of crop residues.
- Farm biosecurity checklist.

More information on farm biosecurity can be found at www.farmbiosecurity.com.au.

If the worst happens

Given the potential difficulty of gathering information, developing procedures and defining roles during an emergency, PHA has coordinated the development of PLANTPLAN. PLANTPLAN is essentially a national set of incursion response guidelines for the plant sector, the roles and responsibilities of all parties involved in an incursion response as well as required procedures. Following the detection of a suspect exotic

plant pest, the relevant state agency should be immediately notified through the Exotic Plant Pest hotline. Within 24 hours of the initial identification, the agency will notify the Australian Chief Plant Protection Office, which will in turn inform other government agencies. Further steps, testing and procedures are then followed to determine the nature of, and threats posed by, incursions, as well as the correct response.

In the event of a pest incursion affecting the potato industry, AUSVEG will be the

key industry contact point and will have responsibility for relevant industry communication and media relations.

The most recent version of regularly-updated PLANTPLAN can be downloaded at www.planthealthaustralia.com.au/plantplan.

It's in the Deed

More broadly, the Emergency Plant Pest Response Deed (EPPRD) has been negotiated between the government and industry members of PHA to cover the management and funding arrangements of eradication responses to Emergency Plant Pest (EPP) incursions. The formal, legally-binding agreement between PHA, Commonwealth, state and territory governments, and 29 plant industry signatories, including AUSVEG, came in to effect on 26 October 2005. Its key principles include:

- Cost minimisation for all parties.
- Reimbursement to growers whose crops or property are directly damaged or destroyed as a result of implementing an approved response plan.
- Early detection and response.
- Ensuring rapid responses to exotic pests – excluding weeds.
- Ensuring decisions to eradicate are based on appropriate criteria.
- An industry commitment to biosecurity and risk mitigation and a government commitment to best management practice.
- Cost sharing/payment of eligible costs.
- An agreed limit for cost sharing (calculated as two per cent of local value of production for one year of the affected industry party, or as defined in the Deed).
- An effective industry/government decision making process.

For more information on the EPPRD go to www.planthealthaustralia.com.au/epprd.



The *Industry Biosecurity Plan for the Potato Industry* is due to be released later this year.

For more information on any of the topics covered in this article go to www.planthealthaustralia.com.au.



PhD Candidate Tamarasan Thangavel works with the disease-resistant potatoes.

Super spuds keep additional diseases at bay

FRESH WORK ON COMMON SCAB-RESISTANT POTATOES DEVELOPED BY TASMANIAN RESEARCHERS HAS REVEALED THE VARIETIES ARE ALSO SHOWING SIGNS OF WARDING OFF OTHER DISEASES.

It began as the pursuit of the 'perfect potato' – a project overseen by Associate Professor Calum Wilson from the Tasmanian Institute of Agricultural Research, which set out to create a 'scab free' spud.

The intent of researchers involved in the exercise – which received funding from HAL using the National Potato Levies and matched funds from the Australian Government – was to breed potatoes which were resistant to the potentially-devastating, and costly, Common scab.

The disease is among the most damaging in the world in terms of the impact it can have on potato crops. It can seriously reduce the market value of infected produce and the quality of the processed product. It poses a particular risk to seed producers, whose certification can be affected by the presence of diseases.

While potato breeding

programs from around the world have prioritised developing scab resistance in potatoes while maintaining essential characteristics for yield and processing, it was the Tasmanian research team that made the breakthrough.

Using cell selection techniques, screening with a toxin produced by the pathogen that causes the disease, they successfully developed potato cultivars with extreme disease resistance to Common scab. The rare variants of potato cultivator, Russet Burbank with extreme disease resistance, were also found to retain yield and processing characteristics.

Now, new research in to the varieties developed during the initial work has shown the potatoes are also demonstrating resistance to other diseases. Under the supervision of Dr Wilson and Dr Robert Tegg from UTAS, PhD Candidate Tamarasan Thangavel has



also been seeking to better understand the reasons behind the resistance.

Additional resistance

With a specific focus on soil-borne disease management options, Mr Thangavel has been examining the resistance mechanisms and epidemiology of key potato diseases. With potato somatic cell selection having previously been used to develop the Common scab resistant lines, his work has involved identifying mechanisms and key traits that make the new potato lines resistant to Common scab, and identifying whether they may also be resistant to other diseases.

"I found that not only do the superior lines have resistance to Common scab – 91 per cent

less disease than the parental cv. Russet Burbank – but also 64 per cent lower instances of Powdery scab, 61 per cent lower instances of Black scurf and 50 per cent lower instances of Tuber soft rot. These figures demonstrate the future commercial potential of this breeding strategy for the potato industry by upgrading existing cultivars for superior disease resistance," said Mr Thangavel.

Understanding why

With genomic studies seen as having the potential to identify other important disease marker genes which could aid the development of resistant potatoes in to the future, Mr Thangavel's research has also looked closely at skins. This is because they are the primary

“...this quick response to pathogen attack can provide a useful barrier to disease development on tubers.”

- Tamarasan Thangavel.

contact for tuber invading pathogens.

“Molecular and physiological examination of the tuber skins, has identified oversubering in the resistant lines and this quick response to pathogen attack can provide a useful barrier to disease development on tubers,” said Mr Thangavel. “The identification of suberin synthesis genes that are over-

expressed in the resistant lines also provides a useful marker for screening potato germplasm.”

Dealing with disease

While the development and understanding of the disease-resistant potatoes has proven to be a significant breakthrough,

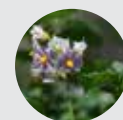
better understanding the diseases which create the problems in the first place also remains important. Another part of Mr Thangavel's research has involved attempting to better understand the epidemiology of Powdery scab, which remains a serious problem in the Tasmanian potato industry with no reliable control.

“My work involves identifying the critical infection period and determining if we can manipulate disease progress to better understand what precedes serious root and tuber disease,” said Mr Thangavel. “Understanding the root infection process is critical and if we can delay initial infection at the root stage with fungicides or other cultural practices then we may reduce tuber damage.”

THE BOTTOM LINE

- Additional research in to Common scab-resistant potatoes developed in Tasmania has suggested they may also be resistant to other diseases, including Powdery scab, Black scurf and Tuber soft rot.
- Molecular and physiological examination of the tuber skins, has identified oversubering in the resistant lines and this quick response to pathogen attack can provide a useful barrier to disease development on tubers.
- Work is also underway to better understand the epidemiology of Powdery scab, which remains a common problem in the Tasmanian potato industry.

CALENDAR of events



3-4 July 2014

TFGA 2014 Biennial Conference, Dinner, AGM & Field Trip

Where: Country Club Tasmania, Launceston

What: The theme of the 2014 Tasmanian Farmers and Graziers Association's biennial conference is Taking Responsibility: farmers and those in our agribusinesses taking it upon themselves to determine their future.

Further information:

Nardia Deverell, Marketing & Communications Manager, TFGA. Phone: (03) 6332 1800

19-21 June 2014

AUSVEG National Convention, Trade Show and Awards for Excellence

Where: Cairns Convention Centre, QLD

What: The AUSVEG National Convention showcases speaker sessions, entertainment and an impressive trade show. The event will provide delegates with an opportunity to forge relationships with members of the industry, supply chain, researchers and growers.

Further information:

AUSVEG (03) 9882 0277, convention@ausveg.com.au, or www.ausveg.com.au/convention

21 June 2014

Annual Potato Levy Payers Meeting

Where: Cairns Convention Centre, Cairns Queensland

When: Saturday 21 June 2014, 2:00pm-2:30pm

Further information: To RSVP, please email AUSVEG on info@ausveg.com.au



Stu Jennings

Welcome back and Happy New Year!

It's hard to believe we are already well into 2014 and full steam ahead. Christmas just seemed to come and go this year with some welcome rain in some parts that has made for a nice change in comparison to this time last year. I hope that the year has started well for you wherever you are and that 2014 brings you enough of everything that you need.

Since the last YPP page went to print – like many others - I attended one of the R&D workshops provided by the Potato Industry Extension Program. I must say I am a big fan of these – they are a fantastic way of learning about the latest research in a hands-on way, sharing your own experiences and of course keeping up that all-important face-to-face network that we all need. I was particularly impressed by the information that I picked up around controlled-release fertilisers at the Warragul workshop. Understanding how to get the most from our expensive inputs, as well as maintaining a balance that helps keep some key soil-borne diseases in check, has already been really useful on our farms and I encourage all potato growers – young and old – to get along to your next local workshop.

Our YPP Facebook Group continues to grow with new members jumping on board since our first YPP page in the last *Potatoes Australia* mag. If you are not already part of the fun, come on in. We

are building a nice little community that is proving to be a great way to let others know what you are up to and even share your challenges.

We have been running a photo competition open to all YPP Facebook Group Members and next edition of the YPP page we will announce the winners of the Farnoz RM Williams prizes.



Crop at Newlyn, Victoria. Photograph by Kain Richardson.

This great shot is taken on Kain Richardson's family farm at Newlyn, Victoria. Nice work Kain!

Don't forget to join us on Facebook or Twitter to stay in touch. All the best.

Stu

“ I encourage all potato growers – young and old – to get along to your next local workshop. ”

www.youngpotatopeople.com.au



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