potatoes australia

Informing and connecting
Australia's Potato Industry
August 2007

Grower Profile: **Jane Beswick**

Feature Section: **What's going on in WA?**

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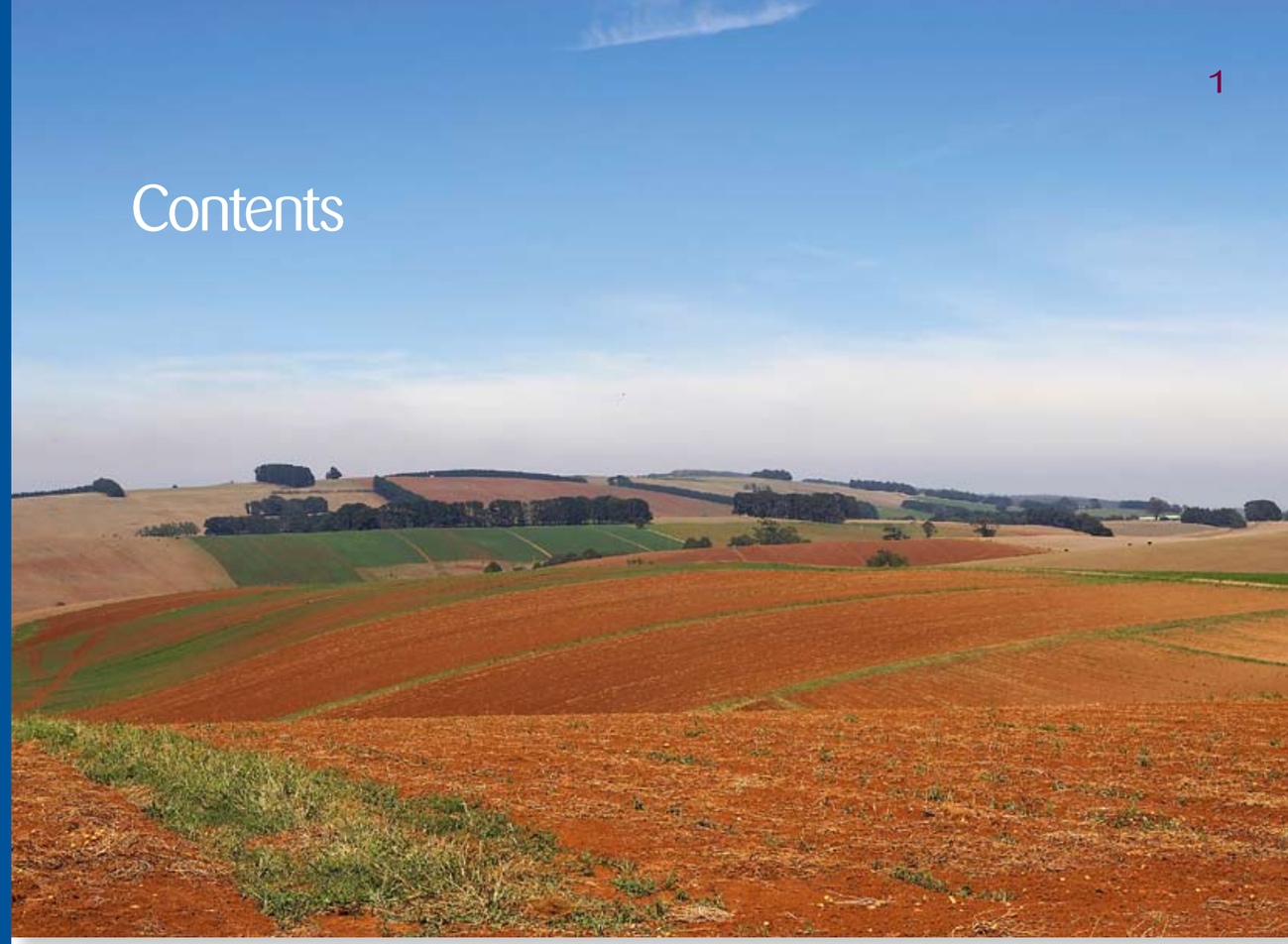

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MEDIA RELEASE

Horticulture plans for the future

A strategic vision that will help the horticulture industry successfully navigate through the next decade and beyond is now being developed.

The $2 million project has been funded by both industry and the Australian Government, and will be the first whole-of-industry strategic plan in the history of Australian horticulture.

The Horticulture Industry Strategic Plan (HISP) aims to provide a practical framework for sustainable growth and prosperity for the entire horticulture industry until the year 2020.

The Minister for Agriculture Fisheries and Forestry, the Hon Peter McGauran MP, recently appointed a 26-person Industry Leadership Group to steer the project. It comprises representatives from the major points in the supply chain, representative bodies, relevant research agencies, the Government and Horticulture Australia Limited (HAL).

"This is a vitally important strategic initiative as the industry is facing both substantial growth in production in some sectors and increased competition from low cost labour countries," he said.

The Managing Director of HAL, John Webster, said the strategic plan would contain practical action plans to drive the implementation of each strategic priority identified.

"We've received overwhelming broad-based industry support for the project," John said.

"The HISP will draw together the aspirations of all sectors of the horticulture industry and is intended to mobilise targeted action in every part of supply chain.

"It will be designed to guide the horticulture industry to a new level of performance over the next three to five years in the context of a 20-year vision, where Australian businesses are positioned to match or exceed the performance of global competitors."

The planning process will involve consultation with grower bodies, retailers, wholesalers, exporters, processors, relevant Australian Government and state government agencies, as well as with experts within the fields of R&D, domestic and international marketing, the environment and regulation.

The Minister for Agriculture Peter McGauran with HAL Managing Director John Webster on a visit to HAL head office in March 2006

"I expect that the plan will influence the industry over the next decades in fundamental ways by shaping factors that drive competition and competitiveness," John said.

Areas for attention in the plan are expected to include:

- Preparedness for the increase in export focus, with market access and export marketing pivotal
- Increased concentration upon identifying and meeting consumer needs at every level in the industry with complementary marketing activities
- The development of measures to raise quality, consistency and reliability throughout the industry
- Arrangements between differing elements of the supply chain, encouraging greater cohesion in areas where break downs are reducing value
- Raising the efficiency and sustainability of participants throughout the industry
- The investment and direction of R&D and marketing resources

Regular progress reports will be circulated to all industry sectors and the Government. A website will also be developed to facilitate widespread communication of progress.

The Centre for International Economics (CIE) has been commissioned by HAL to assist in the development of the HISP. The plan is expected to be finalised by 30 June 2008.

AUSVEG Potato Group Chairman's message

Over the last two months we have indeed seen some unusual weather patterns. Areas receiving lower than normal minimum temperatures and flooding in areas that have previously been severely drought affected. It looks like a shortage of potatoes is inevitable. The two ladies we sometimes battle with (Lady Luck and Mother Nature) are flexing their incredible power.

Another outbreak of potato spindle tuber viroid (PSTVd) has been detected in Western Australia. Thankfully the outbreak was localised. The crop was again greenhouse tomato and with the full co-operation of the grower and the Department of Agriculture and Food in WA eradication program was implemented and completed. The disease can cause yield losses in tomatoes but can also cause huge losses for potato seed crops and fresh and processing crops. This takes us to tough questions for industry.

1. Does AUSVEG sign the Deed? This will enable the Federal Government to get involved and potentially give industry access to federal and state funding for exotic plant and disease eradication
2. Does AUSVEG, as the peak industry body, set the levy at zero and wait for a pest or disease incursion to occur?
3. Should vegetables and potatoes join forces to fight pest and disease incursions on a single front?
4. If AUSVEG doesn't sign the deed and the potato industry has an outbreak of the A2 late virus, who is going to pay for the eradication and crop loss? Where will the money come from?

The Chief Economist from AUSVEG, Ian James, has been working through the Deed with Plant Health Australia (PHA). The chair of PHA Andrew Inglis and Program Manager Rodney Turner recently attended an AUSVEG board meeting to carefully explain the workings of PHA and the Deed. In the near future the industry will need to recommend to the Board of AUSVEG which way to go.

Don't forget to tell the world to eat more spuds!

David Anderson
AUSVEG Potato Group Chairman

Editor's message

The new financial year is already bringing its share of surprises with rain finally starting to fall around the country giving hope that the drought may be finally breaking. This isn't all good news however, as recent flooding and cold snaps have taken their toll on potato crops in Queensland and Victoria, raising the possibility of crop shortages and price hikes.

With a federal election looming, we take a look at the reaction to the recent call for an inquiry into grocery prices and update the water wrangle over the Murray-Darling Basin.

Also in this issue's feature section, Toni Davies, AUSVEG Communications Coordinator, gives us some insight into WA and how things operate in the only regulated market in Australia while Matt Wickham, AUSVEG Marketing Communications Executive, shares his take on the success of some of WA's marketing strategies.

We have a brief rundown of new research projects approved by Horticulture Australia for 2007-2008 as well as our regular update on the Processed Potato Research and Development program.

Later in the year, a grower telephone survey will be conducted to get a feel for what you like and don't like about your magazine, but in the meantime this issue contains a survey seeking your feedback on what business management skills you would like to learn more about.

I appreciate the feedback I've received over the recent weeks regarding your experiences with the Horticultural Code and what you'd like to see in the magazine as it'll help us bring you the information you want.

Simon Adams
Editor
AUSVEG

Jane Beswick and one of the Beswick trucks

The Beswick's twin-row, self-propelled Grimme Harvester at work on the property

PROFILE Jane Beswick

Potato grower Jane Beswick likes to do a bit of everything to keep things going on the property she runs with husband Phillip, from office work to truck driving. As most growers already know, it can take doing a bit of everything to survive these days. Simon Adams finds out more.

Over the last 20 years, Jane and Phillip Beswick have built from scratch a 400 Ha cropping and cattle property, contracting, harvesting, cartage business and fertiliser depot located at Sisters Creek on the Northwest Coast of Tasmania supplying predominantly potatoes for McCain.

In addition to approximately 100 hectares of potatoes grown for McCain, the Beswicks harvest and cart potatoes and onions for other growers, as well as grow another 200 hectares other crops including peas, beans, cauli's, broccoli, poppies and carrots at various times of the year.

Although growing potatoes is the main focus of the business, Jane attributes much of the business' success to her husband's ability to diversify their interests by adding different components to the business through choice, rather than financial need.

"These days, no-one can just buy a farm and make a living from it alone," she said.

"Credit to Phillip, so many different areas and each one props the others up at different times. You'll get a bad year with something but something else will be ok."

Jane also attributes much of the business' success to their staff whose ongoing dedication and commitment she says they couldn't do without.

"We say quite often that we are so lucky to have such a great bunch of guys working for us, they are not just employees they are mates," she said.

For the last 11 years, the Beswicks have been running a fertiliser depot on the property, which although only comprising a small percentage of turnover, is one of the most visible aspects of the business when visiting the property.

The depot, run on behalf of Impact Fertiliser, receives orders from distributors and growers and uses a number of base products which are mixed up for client specifications.

The depot turns over approximately 6,000 tonnes a year, a figure that has remained steady for several years thanks to regular customers, including the Beswicks themselves. Although the depot is located next to the Beswicks' home, they have to contact the distributor to purchase any fertiliser

"Even though we're our own biggest customer, we're still like any other customer. We still have to go through the distributor to purchase fertiliser," Jane said.

Jane finds it hard to pin down her main duty in the business, as she'll be required to do different things at different times of the year. Jane mainly finds herself handling office administration, feeding cattle and driving trucks, something she enjoys, particularly as it's a chance to get out of the office.

'It's my little bit of an outlet actually, to get out of the office. It's better for us to do the office administration ourselves but sometimes I just really need to get out and do a different job. Things can be a bit of a challenge at times especially when trying to unhook and hook up trailers in muddy spud paddocks, but it's all a bit of fun.

When Phillip purchased some semi-trailer rigs, Jane went for her semi-license so she could be involved, sometimes doing full time driving in different seasons.

"These days, I just fill in in the busy times. You could call me a 'spare driver' now. I'm someone that's here to fill in if we're a man short or they need to send someone off on another job. I'll just jump in the truck. It suits us."

"I don't claim to be mechanically minded, about all I do is fill up with diesel, check oil, water etc. The guys do the rest in the shed," she said.

"I have had to call on roadside mechanics a couple of times when driving along the coast."

Phillip makes a point of having fairly new machinery and keeping it well maintained which Jane has found to be worth the effort.

"I've had staff at factories say to me 'we're so glad to see your trucks come in here, because we know they'll unload properly, fast and won't have any hassles.' You don't need breakdowns when you're contracting for other people. It just pays to keep reasonable equipment."

Their equipment includes three trucks and trailers, pivot and linear irrigators, two Grimme harvesters, one single-row and a twin-row, self-propelled, the only one in Australia, and the usual array of tractors and machinery.

Jane grew up on a small dairy farm, which also grew peas and beans and drove trucks before she met Phillip and started a family. The Beswicks have three teenagers, with the youngest just finishing high school.

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"We have never really aspired for the children to come and work on the farm, we always said they would have to get out and find their own jobs first and if they were interested later then we would look at it. Two of them already have good jobs," she said.

"It's a lot harder to run a farm these days. My parents started with nothing and made a 100 acre dairy farm. It was tough, but they made a living. Nobody can do that now. You couldn't do that anywhere. Things have just changed."

"You look at the price of the produce back when we started 20 years ago and its not much different now, but the price of everything (else) has gone up. The factories keep saying you've got to get better at it, more efficient and we have. But how far can we go?" Jane said.

"We've been doing this for 20 years and we're still finding it tough."

Jane and Phillip are planning to build a new house on a property five minutes away, overlooking Bass Strait to give themselves some distance from the business, which has required 24 hours a day, seven days a week, literally on their doorstep.

"Certain times of the year, we can get woken up at all hours with deliveries as our house is the first thing the drivers see. Doesn't seem to matter when you get up everything is happening, the phones ringing, customers and employees coming and going. I'm looking forward to the day when we build along the road. When we live somewhere else, we'll get up and go to work, rather than already being amongst it," she said. But even though she's looking forward to moving up the road, Jane likes what she does most of the time and couldn't see herself doing anything else.

NEWS

PCN Update

The latest PCN focused meeting of interstate quarantine authorities, grower representatives and processing representatives took place on the 26th July in Melbourne.

"The group feels that they are getting closer to a co-operative and cohesive plan that will be of benefit to the Australian industry," said PCN project manager Laura Bowles.

"The focus remains on detection, with some sort of survey expected to be recommended for national adoption in the near future, along with a national unified plan for what will happen if the pest is detected in another area," she said.

More information is included in the insert in this issue of *Potatoes Australia*.

Coles to be sold

Wesfarmers has emerged as the preferred purchaser for the Coles Group Ltd. After an extensive process in which Woolworths, US private equity companies Kohlberg Kravis Roberts and Texas Pacific Group, UK firms Permira and Pacific Equity Partners all made offers for part or all of the company, Perth-based Wesfarmers' bid was finally confirmed as the successful offer.

The sale will be finalised once the final offer will has been taken to Coles Group's shareholders in a meeting to be held in October 2007.

Initial reaction to the sale has been varied, although it is hoped Wesfarmers will be able to drive a turnaround in the sales performance of Coles, which has lagged behind Woolworths.

Grower groups have welcomed the move, hoping it will provide an opportunity to better negotiate idividual contracts, although there are concerns the sale will lead to a cost-cutting drive which will further impact growers.

PSTVd. scare sparks international concern

Another outbreak of PSTVd. was detected in a greenhouse tomato crop and contained in Western Australia recently with the Western Australia Department of Agriculture moving quickly to eradicate the pest.. As a result of this second detection in 12 months, Biosecurity Australia (BA), Australian Quarantine Inspection Service (AQIS) amd the Office of the Chief Plant Protection Officer (OCPPO) have requested Dutch authorities conduct an investigation into the problem.

The Dutch authorities have launched an investigation into the source of the contaminated seed and are experimenting with treatment to eliminate PSTV from the seed. At present there is a treatment but it results in substantial losses of seed.

Determining the source of the seed is proving difficult, with concerns raised the source of the infected seed is either the Netherlands (which claims to be PSTVd. free) or seed transshipped out of Asia.

Workshop to tackle Rhizoctonia issue

A Rhizoctonia technical workshop is to be held in Melbourne on October 16 and 17.

Comprising researchers, agri-chemical representatives, consultants and growers, the workshop will be focused on Rhizoctonia of potatoes and vegetables (beans, carrots, brassicas, lettuce). Rhizoctonia was identified as an issue for vegetable crops in the recent Integrated Pest Management Gap Analysis project funded by Horticulture Australia. The processing potato industry rated Rhizoctonia as a major issue in the development of the five year Processed Potato Research & Development Plan.

The objective of this workshop is to capture the existing knowledge about Rhizoctonia, identify gaps in our knowledge, identify management options and explore the potential for enhancing current management strategies. The outcomes will form the basis for the development of a literature review (vegetables), and the development of practical technical information to industry (vegetables and potatoes) to reduce the losses of yield and quality caused by this pathogen.

Issue Roundup: National Grocery Pricing Inquiry

"The proposed ACCC inquiry into food prices needs to also consider why food prices paid by consumers have been rising much faster than the prices paid to farmers. Over the last four years to June 2006, retail food prices had risen on average by 17.8 per cent while average prices received by farmers rose by just 2.3 per cent."

Queensland Farmers' Federation, Chief Executive Officer John Cherry

"The issues that need to be addressed here are competition and market power of the big two supermarkets, and the only way to bring prices down is to encourage more competition and independent operators in the grocery sector, and for Australian shoppers to change their habits to support them."

The Hon. Ron Boswell Senator for Queensland Leader of The Nationals in the Senate

"We would welcome any system that creates more openness and transparency to benefit everyone in the whole supply chain."

Mike Badcock, AUSVEG Chairman

"Woolworths wholeheartedly welcomes any policy announcements which would clarify and correct the many myths and assumptions about supermarket pricing and the competitive structure of Australia's food retail industry."

Michael Luscombe, Woolworths CEO

"The Australian Bureau of Statistics already publishes prices of biscuits, bread and baked beans – and many other household groceries – in every State, every quarter."

Hon Peter Costello, MP, Treasurer of the Commonwealth of Australia

What's been proposed:

An ALP Government would:

- Strengthen the role of the Australian Competition and Consumer Commission (ACCC) to monitor supermarket prices
- Direct the ACCC to conduct a National Grocery Pricing Inquiry to report to the Government within six months, taking submissions from individuals, consumer groups, retailers, businesses along the supply chain, and other interested parties.
- ACCC will be directed to publish a periodic survey of grocery prices at supermarkets for a typical shopping basket. Vegetables are not specifically mentioned. The ACCC will set up a dedicated website to publish this pricing snapshot and to increase transparency in the market place.
- Surveys will be conducted in all states, in both metropolitan and regional areas, to provide the ACCC with the pricing information needed to identify any breaches of the Trade Practices Act requiring further investigation.

"Growers often complain to us that the prices for fruit and vegetables that are paid at the markets or by supermarkets in no way reflected in supermarket prices to the consumer which can be more than five times as high. Growcom believes there needs to be a mechanism whereby authorities can discern where there have been excessive mark-ups of fresh produce."

Growcom Chief Advocate Mark Panitz

"We welcome any actions that will bring some reality and common sense to the debate about supermarket prices. There have been lots of extravagent claims made about supermaket prices in recent times, most of them with little or no basis in fact.

The reality is that we pay a fair and sustainable price to suppliers for their produce, and that environmental factors have seen prices rise on a number of fresh produce lines. However, we are not profiteering with our on-shelf prices. We are a low-margin, high volume business, and we operate on a profit margin of less than four cents in the dollar.

We're confident that any food pricing inquiry will show that Coles consistently offers some of the cheapest food prices in the country."

Jim Cooper, Coles Ltd Spokesperson

(ABS Website link to price list - http://www.ausstats.abs.gov.au/ausstats/subscriber.nsf/0/F251D3A8ABEF46C5CA2572CE001AA38A/ $File/6403055001.xls)

Vic Potato Growers win collective decision

A recent application by the Victorian Potato Grower's Council (VPGC) to collectively bargain the terms and conditions of their contracts with potato buyers has been approved by the Australian Competition and Consumer Commission (ACCC).

The decision, which will affect contracts with processors and wholesalers in Victoria, will allow potato growers to collectively negotiate terms but will not prevent individual growers from negotiating variations on the collectively bargained contracts.

"The ACCC believes that the possible anti-competitive effect of the collective bargaining arrangement is limited given the nature of the proposed arrangement and the structure of the industry," ACCC Chairman, Graeme Samuel, said.

Although the ACCC decision was sought by the VPGC, the intial instigation of the process came from McCain Foods, who requested their suppliers' organisation, the McCain Growers Group (MCGG), seek leave to collectively bargain.

"It's a great result for growers," VPGC Executive Officer Laura Bowles said.

"It'll give growers, and in this case a major processor, more flexibility to streamline the negotiation process without limiting the grower's right to seek individual arrangements," she said.

Although intially discussed in October 2006, the application process actually took two months from lodgement with the ACCC to the final decision, partly due to a lack of any real objection from the industry.

"This would have eventually needed to happen, but it's great to see parties from both sides working together to get a good outcome," Laura said.

Following advice from the ACCC, the decision was taken for the VPGC to apply on behalf of the whole Victorian industry rather than MCGG applying for a portion of the industry.

Although a first for the Victorian industry, Tasmanian growers have had a similar system in place for several years and the South East Potato Growers Association in South Australia have just had a similar application granted interim authorisation.

The Emergency Plant Pest Response Deed

What does it do?

The Deed (officially the Emergency Plant Pest Response Deed) is a formal cost sharing agreement between industry and government for the eradication of Emergency Plant Pests (EPP's). The Deed relates solely to new pest incursions detected. The Deed will be invoked if a National Management Group (NMG) comprising government and industry representatives affected by the specific incursion unanimously agrees to establish an eradication program. Components of an eradication program include identification and destruction of a pest, and compensation for parties directly affected.

Signatories to the Deed (which has been active in most other industries since 2005) have agreed to contribute financially to eradicate a pest incursion, which in essence transfers more of the cost back to industry while at the same time providing a coordinated response which can minimise potentially disastrous pest incursions and provide financial compensation to growers whose crops are destroyed.

The aim of the Deed is to facilitate a rapid response to an exotic pest incursion, requiring decisive action to be quickly taken, usually within 24-48 hours as required. Many of the terms of the Deed are designed to keep the process simple and prevent delays in the decision-making process.

The latest outbreak of PSTVd. detected in Western Australia has highlighted the potential risk growers face if the Emergency Plant Pest Response Deed (Deed) isn't implemented, but as it stands there are several points of contention that need to be resolved.

The Issues

Who will bear the cost of an exotic pest incursion?

The main concern with the Deed as it stands is that with the cost of managing each outbreak likely to run into millions of dollars, growers could face huge financial burdens. Growers may also have to contribute funds to eliminate pests introduced into other plant crops but with the potential to transpose across to potatoes and vegetables. Members of the supply chain who may also benefit from eliminating the pest do not make a financial contribution.

Under the Deed, the person/company introducing the pest is not required to make any contribution to the eradication costs and instead both industry and government will bear the full cost of the eradication program.

Should the vegetable industry sign the Deed?

Currently, the vegetable industry has not committed to the Deed. This means any pest incursions such as the recent PSTVd detections will be resolved without any input from the industry and there will be no financial compensation available to growers whose crops are destroyed. Signing the Deed will create the potential for growers to make large industry fund contributions in the event of several exotic pest incursions, but will also give the industry a say in the decision-making process involved in invoking the Deed.

AUSVEG is currently evaluating the pros and cons in signing the Deed on behalf of the industry, advocating a united front, but has signalled it will consult the industry before reaching a final decision.

Signing the Deed

Advantages

- Money available to eradicate a pest with significant government money and assistance.
- Some control over process and grower choice on how to manage exotic pest incursion. If vegetables impacted then veto power available on NMG will minimize impact on vegetable growers.
- Growers whose crops are caught up in an eradication program gain financial compensation.
- Incentive for growers to report pest incursion. Early intervention can limit damage.

Disadvantages

- Unknown financial liability to growers.
- Growers will have to pay if an eradication program goes ahead that impacts on vegetables.

Fresh Potato Marketing

AUSVEG Marketing Communications Executive, Matt Wickham, provides an update on his ongoing marketing research and work preparing an action plan for the fresh potato industry.

Marketing development for fresh potatoes is continuing to gather pace. I have recently completed a literature review that summarises National Potato Levy funded research and spud promotional campaigns that are relevant to the industry. Amongst several interesting topics highlighted in the review is the potato branding adopted by other international and domestic organisations.

A brand is a combination of attributes communicated through a name, symbol, or an image that influences a thought-process in the mind of an audience and creates value. The value of a brand resides, for the audience, in the promise that the product or service will deliver. Upon contact with a consumer, a successful brand will build a positive image within their minds that the consumer recognises and trusts.

The branding adopted by other potato marketing organisations has a common theme running through them.

The British Potato Council 'challenges potatoes to give you more…' looking at mums striving to feed their families healthy and quick meals.

Western Potatoes (WA) recently repositioned its marketing brand from 'What, no potato?' to 'Potatoes. Australia's Feel Good Food'.

Potatoes South Africa re-branded themselves from 'Potatoes – The Goodness of the Earth' to 'Potatoes – Natural Energy for Life'.

The United States Potato Board is delivering a targeted consumer education campaign titled 'The Healthy Potato'.

Judging by these campaigns it is clear that a potato brand should be built around the superior healthy attributes and benefits that the potato has to offer. The potato brand should conjure up an image within consumers that is fun, exciting, convenient, healthy, tasty and versatile. I think that it should also communicate the potato's amazing popularity with Australians.

I continue to gain invaluable feedback from growers regarding marketing and promotion for fresh potatoes. A recent trip to Western Australia presented interesting results as WA has a regulated industry that already promotes its product. They have had a fantastic result from their promotion that only adds strength to implementing a national approach.

In addition, there has been an increase in enquiries from retailers, giving me an opportunity to get a view from 'the front line' on what will get consumers' attention and how best to target them. This interest is likely to continue to grow, particularly through media interest which is also slowly starting to materialise.

Also the Horticulture New Zealand Conference held in early August had a strong potato and fresh produce marketing presence. It presented another opportunity to gather additional useful information.

The initial steps in the action plan will set up the marketing support fundamentals that will provide the base upon which promotional campaigns can be launched.

Watch this space.

The Bottom Line

- Report on marketing action plan to be delivered in mid-August
- Research is clarifying the branding requirements for a local potato brand
- Local interest is aiding the branding research

Further information can be found at ausveg.com.au

Potato R&D

Water Update:

The stalemate between the Victorian State Government and the Federal Government came to a head recently with the Prime Minister announcing the Federal Government would seek to forcibly take control of the Murray-Darling Basin using existing powers within the Australian constitution.

Former Victorian Premier, Steve Bracks, indicated the Victorian Government would launch a challenge to the move in the High Court of Australia, which would effectively prevent the Federal Government from proceeding with the plan. Victoria's oppostion to the plan has been confirmed by the new Premier, John Brumby. The Prime Minister has since indicated Victoria's resistance will not prevent the plan from going ahead.

The Queensland National Party and the Queensland Farmer's Federation have both also raised questions over the current legislation draft similar to Victoria regarding the recognition of irrigators' existing entitlements, lack of detail on compensation and the Federal Government's accountability under the new arrangements. Both groups have indicated they are open to further negotiation.

The National Plan for Water Security

1. A nationwide investment in Australia's irrigation infrastructure to line and pipe major delivery channels
2. A nationwide programme to improve on-farm irrigation technology and metering
3. The sharing of water savings on a 50:50 basis between irrigators and the Commonwealth Government leading to greater water security and increased environmental flows
4. Addressing once and for all water over-allocation in the Murray-Darling Basin
5. A new set of governance arrangements for the Murray-Darling Basin
6. A sustainable cap on surface and groundwater use in the Murray-Darling Basin
7. Major engineering works at key sites in the Murray-Darling Basin such as the Barmah Choke and Menindee Lakes
8. Expanding the role of the Bureau of Meteorology to provide the water data necessary for good decision making by governments and industry
9. A taskforce to explore future land and water development in Northern Australia
10. Completion of the restoration of the Great Artesian Basin

What's the sticking point?

The Federal Government has proposed establishing a new Murray-Darling Basin Authority (to replace the existing Murray-Darling Basin Commission) which will be responsible for coordinating a new national approach to water management with decision-making powers currently held by the states voluntarily referred to the new body.

It was stipulated for the plan to proceed successfully all states must agree to refer their authority over water resources to the Federal Government.

All states agreed to the plan save for Victoria, which, reluctant to surrender the decision-making power, cited concerns:

- The security of existing water for irrigators was not guaranteed;
- New planning powers throughout the entire basin, covering almost 60 per cent of Victoria;
- The cost of the red tape associated with the new complex arrangements would be passed on to irrigators;
- While the Commonwealth would not directly control urban water supply, it would control water going to the towns, potentially impacting on projects like the 'Superpipe' (a regional pipline linking regional water supplies for Ballarat and Bendigo).
- Limited detail was supplied on new trading rules and arrangements, how or where funding would be allocated and pricing developed.

An extensive negotiation period followed, delaying implementation of the plan until the Prime Minister finally declared his intention to proceed with the plan without Victoria's agreement.

The one thing that all parties have been able to agree upon is something action needs to be taken to better manage the nation's water resources. With predictions of lessening rainfall in coming years, major resources such as the Murray-Darling Basin need to reign in current demands and re-establish sustainable usage before it's too late.

New potato research projects confirmed

Potato R&D

Horticulture Australia has confirmed the new projects funded under the potato Research and Development Levy for 2007-2008. An update on existing projects will be published in the *Potatoes Australia Review*, to be published in November 2007.

Project code	title	Industry Focus	start date	end date	Provider
PT07004	Analysis of gene markers for TSWV resistance in potato and search for homologs of characterised TSWV resistance genes	Potato - Processed	1/07/2007	30/06/2009	University of Tasmania
PT07005	PPR+D (Processing Potato Research and Development) program leaders tour to the UK to develop linkage projects	Potato - Processed	2/07/2007	26/10/2007	University of Tasmania
PT07006	PPR+D: Identifying microbial communities in disease suppressive soils as a means of improving root health of potatoes	Potato - Processed	1/07/2007	30/06/2010	VIC Department of Primary Industries
PT07008	PPR+D: Additional Funding for DNA Probes SubProgram	Potato - Processed	1/07/2007	30/06/2009	South Australia Research & Development Institute (SARDI)
PT07018	National Potato Breeding Program: Strategic Trait Development	Potato - Fresh Potato - Processed	1/07/2007	30/06/2012	VIC Department of Primary Industries
PT07024	Extension to TAS IDO position, combined with the vegetable industry	Potato - Processed	1/07/2007	31/01/2008	Horticulture Australia Limited
PT07025	Enhancing environmental sustainability	Potato - Processed	1/10/2007	29/02/2008	To be advised
PT07028	Scope for alternative Rapid diagnostics for strains of the potato late blight pathogen for effective incursion mgmt	Potato - Processed	1/02/2008	31/05/2008	To be advised
PT07029	PCN working group continuation	Potato - Fresh	1/01/2008	31/05/2008	AUSVEG
PT07030	National Potato Grower Database	Potato - Fresh Potato - Processed	1/11/2007	30/06/2008	AUSVEG
PT07031	People development	Potato - Fresh	1/11/2007	31/07/2008	To be advised
PT07033	Encouraging the whole of supply chain productivity improvement	Potato - Processed	1/10/2007	30/06/2008	To be advised

Doing things the WA way

It's been suggested that the people of Western Australia would like to break away from the rest of Australia to form their own country. Perth with 80 per cent of the states population and the title of 'the most isolated city in the world' naturally could make you feel a little segregated, but with a pride in the West and what could be called a parochial attitude, Toni Davies discovers that WA growers like to do things their way.

The Western Australian (WA) potato industry is unique in Australia, being the last bastion of regulated statutory marketing organisations of potatoes in Australia, and in fact one of the few remaining regulatory systems in the world.

The Potato Marketing Corporation (the Corporation) came into operation in October 1948, having been established under the *Marketing of Potatoes Act 1946*. The need for regulation originated during World War II when the Commonwealth Government, under its National Security Regulations, introduced a system of growing potatoes under contract with a guaranteed price. This was done to secure supplies for both the civilian population and Australian and allied military forces.

In July 2004 the WA State Minister for Agriculture announced that changes were required to the operation of the Corporation to ensure it complied with the competitive neutrality principle of the Trade Practices Act.

Part of these changes was the creation of Western Potatoes, established as the marketing arm of the WA potato industry to work in conjunction with the Potato Marketing Corporation to ensure a streamlined and efficient industry.

Chief Executive Officer, John Dawson has been at the helm of the Corporation since December 2005 in what has proven to be rather testing times as the Corporation faces an impending Federal Court case.

As with most regulated systems challenges can occur by way of the threat of lack of free enterprise. Baldivis grower Tony Galati is currently pursuing legal action claiming the *Marketing of Potatoes Act 1946* contravenes the Federal Trade Practices Act and the Commonwealth Constitution by allowing the Corporation an anti-competitive monopoly.

The future of the Corporation remains under a cloud until the court case is resolved and if Tony Galati is successful in challenging the legality of the Act, the WA potato industry may be in for changes once again.

The Western Australian potato market is basically made up of three sectors that are under the control of the Potato Marketing Corporation namely:

- Fresh (ware) domestic potato market - regulated by the *Marketing of Potatoes Act 1946*
- Export market for fresh ware and seed potatoes - not regulated except for registration of plantings
- Processed potatoes for domestic and export market - not regulated except for registration of plantings

The regulated system aims to align supply to within 5 per cent of the anticipated demand to minimise overproduction and provide consumers with fresh potatoes all year round. Approximately 45,000 tonnes of potatoes are grown annually for the domestic fresh market in WA.

All potato production for the domestic fresh market is regulated through a licensing system which manages the acreage and tonnage of potatoes planted, the growing season for different areas and the delivery time for growers to supply to wash packers.

Major production districts include Manjimup, Pemberton, Busselton, Myalup, Gingin, Donnybrook and the Metropolitan region. Production of potatoes represents about 30 per cent of the total area under irrigation for fresh vegetable production in WA. Potato production is spread across the state ensuring fresh supply is readily available to the domestic market throughout the year.

The System

The Corporation has four registered wash packing operations in the Perth metropolitan area and one in Pemberton. Growers supply unwashed potatoes to a registered wash packer of their choice who are then responsible for the washing and grading of the potatoes in accordance with grading requirements.

The wash packer completes a pack out document that provides weight details for each grade, soil and waste. The Corporation is then paid by the wash packer for the relevant grade as outlined in the pack out document.

The Corporation in turn pays the grower, (minus the Corporation's operating costs) through a series of progressive payments. Once the potatoes are graded and packed, the wash packers sell the potatoes to market wholesalers and retail outlets. Neither the grower nor the Potato Marketing Corporation has a direct supply relationship with retailers.

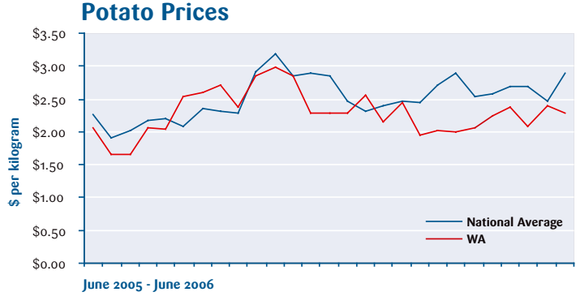
The supply chain in the regulated WA market

Growers
↓
Potato Marketing Corporation of WA
↓
Wash packers
↓
Retailers
↓
Consumers

Net Grower/Public Benefit

The most recent review undertaken by the Corporation in 2006 found that the benefits of price stability, production and quality control and protection of grower returns collectively outweighed the costs associated with production and pricing regulation.

Potato Prices



- In the decade to 2002, WA consumers experienced the most stable potato prices in the nation, shortages in supply in other states led to wild fluctuation in prices
- The regulated system ensures sustainability and protects hundreds of jobs within the State's rural communities
- Growers are guaranteed timely and full payment ensuring financial security, long term planning and investment opportunities
- The Corporation operates at no cost to taxpayers - funded entirely by growers
- The grading system ensures inferior quality potatoes are rejected
- The system is environmentally sustainable - limiting overproduction, in turn minimising environmental damage
- Instrumental in assisting growers to adopt sustainable management through support and promotion of best environmental practices, including water usage, fertiliser management and controlling pest and disease

Whether the regulated system remains a long term prospect going forward for the WA potato industry, there is no doubt the system has served its purpose well as many growers are happy with the stability the system offers, however, it remains to be seen whether the challenge by Tony Galati and the drive for free enterprise will tip the balance.

Western Potatoes

One of the major changes instituted by the WA Government in 2004 was the establishment of an independent grower-owned company for the WA Potato Industry. Toni Davies, AUSVEG Communications Coordinator, takes a look at how they operate.

Established in 2004, Western Potatoes Limited has provided growers with the opportunity for greater involvement in the marketing, promotion and exporting activities of their industry, resulting in a strong increase in sale of fresh potatoes.

Western Potatoes' main objective, to increase sales of fresh potatoes from the 2005/6 amount of 838 tonnes per week to 1,000 tonnes by June 2009 was met at least twelve months earlier than estimated representing profitable results for a budget outlay of $815,000.

Western Potatoes now manages all advertising and promotional activities under the management of Chief Executive Officer, Ray Wilson. Ray and his team are instrumental in the marketing and education of consumers and related industry in WA, a task where success is measured by retail growth.

There are four core businesses central to Western Potatoes:

- Domestic Marketing
- Export
- Value Adding
- Intellectual Property (PBR)

Funded by a grower's fee for service of $15 per tonne, Western Potatoes has two representatives out on the road visiting approximately eight retail outlets per day. This face to face retail service is a great tool to foster relationships with the large supermarket chains and individual retailers who are rapidly gaining favour again with consumers. This regular contact also provides valuable feedback to Western Potatoes on consumer comment and demand.

Western Potatoes provides information at a consumer point of sale level and have a range of merchandise available to purchase. Their focus is also on providing educational material on potatoes by providing information kits to schools showing varieties, nutritional value and how easily potatoes can be prepared for cooking.

To maintain and develop its market position Western Potatoes employs an advertising agency, PR Company, undertakes market research and consults food groups to ensure their objectives are being met and key messages are being delivered.

Western Potatoes CEO, Ray Wilson

Western Potatoes latest campaign, 'Feel Good Food' is promoted at retail level and offers recipe and nutritional information to consumers. This campaign is supported by the WPL website and its representatives.

The Marketing Perspective – Matt Wickham, AUSVEG Marketing Communications Executive

Western Potatoes recently repositioned its marketing brand from 'What, no potato?' to 'Potatoes. Australia's Feel Good Food'. The new strategy is based on appealing to people's hearts and minds on the proven values and benefits of the potato. The aim of successful branding is to clearly associate the product with a positive image or identity in the mind of consumers. This brand aims to make consumers rethink their attitudes towards potatoes as a fashionable, quick and easy fresh food to prepare.

As a part of the new marketing campaign, Western Potatoes has launched a new-look website that reflects the new branding, www.feelgoodfood.com.au. Nation-wide research has indicated the consumer has lost touch with potatoes, how to use them and the qualities they offer. The website is a readily accessible avenue for the Western Australian potato industry to communicate with consumers and provide a focal point for retailers, investors and schools.

Coinciding with the new market position, Western Potatoes has also launched new 'point of sale material' that is available for retailers, such as recipe cards, which is designed to encourage the consumer to use potatoes. The merchandise, located within the potatoes section in the supermarket, includes brown paper bags specifically for potatoes and copies of the 'Feel Good Food' Western Potatoes magazine. Also available alongside, are spud variety and nutritional information, potato microwave containers and potato dressing sauces. This is proving to be a simple but effective method of communication to increase product appeal and lift the profile of the potato.

Stalls at the Produce Marketing Association trade show

US tour highlights Oz growers' good habits

In October 2006, six young Australian vegetable growers joined six young New Zealanders on the Produce Marketing Association's young grower's tour of the U.S. Michael Omodei from Pemberton, WA reports on the trip.

In October 2006, a group of 12 growers, including myself, travelled to the US to attend the Produce Marketing Association's (PMA's) annual conference in San Diego and tour farms in Arizona and California, discovering in the process that Australian growers do have some advantages over US growers.

The standout point for me was growers over there are remarkably unconcerned at the lack of traceability through the supply chain and there is no compulsory testing for pesticides or fungicides unlike our industry, making it quite difficult to track down the source of any crop infections, if detected at later stages in the supply chain. Some segments of the industry, such as the larger lettuce growers, have implemented their own quality assurance programs, but on the whole, few were worried about the potential risks.

In the Imperial Valley, a major agricultural hub of over 600,000 acres in California, soil salinity levels are significantly higher than we encounter in Australia and steadily increasing.

Levels are currently at 1000g/l (1000ppm), well above the levels which the farmers have adapted to by 'file lining' (like drain coil) their fields. These are placed 10ft below the surface and at 150ft intervals and are opened at either end below the drains. The main irrigation method is flood which continually pushes the salt down through the profile into the "tile Lines" and out into underground channels.

From there it is channelled into the Salton Sea and then into Mexico (a major agricultural competitor). Imperial Valley's water is channelled down from Hoover Dam which is situated on the Colorado River.

While we gained useful insight into grower methodology through the technical tours, I would recommend the PMA conference to any potato farmer who is involved in the wholesale or retail sector.

There were over 1000 exhibitors, from large national companies showing their produce, to packaging and transport companies which I found well worth a look. Conference speakers presented on a variety of topics, ranging from emerging trends in consumers to food safety's financial impact for industry and commercial opportunities for growers and retailers.

As you can imagine, much of the US market is based on product appearance and packaging, as well as new innovations in marketing. The main variety of potato consumed in the US is the Russet Burbank, Norkotah and Ranger. Red varieties are becoming very popular, as is the Russian Banana and some purple fleshed and skinned varities that are being trialled in the crisping industry. Organics are also on the lips of most in the US, but it only accounts for a minute portion of the market so far.

Michael, with his father, brother and uncle, runs a 1000 acre farm in Pemberton WA producing 130 acres of fresh potatoes such as Nadine, including red and blue varieties.

The Bottom Line

- Young growers gained valuable insight at the Produce Marketing Association's annual conference and from touring US farm districts
- US growers appeared more relaxed regarding potential crop infections and had few processes established to track the origins of produce through the supply chain
- Organic crops are likely to be a focus for the US industry

Further information can be found at ausveg.com.au

Peter Dawson getting on-the-job training about potato production in South Sulawesi from potato farmers and Indonesian Department of Agriculture Officials. Picture DAFWA.

Boosting export markets with a broad approach

Peter Dawson has no doubts about the value of thinking outside the square when it comes to potato research and the way it is funded. He tells Graham Gosper that approach has been employed by the potato industry in Western Australia for years and is now paying off in a variety of ways.

Peter, 50, is the leader of the potato project team with the Department of Agriculture and Food Western Australia (DAFWA). He has been involved with potato research and extension since graduating from the University of Melbourne with a Master of Science degree in the early 1980's.

For most of that time he has been based at the DAFWA regional centre in Albany where he was involved with seed potato development for more than a decade. Since 1990 he has been WA evaluator for the Australian potato breeding program which has achieved success with commercial release of fresh and processing varieties.

In recent years Peter and the DAFWA potato project team have won recognition for their work towards development of the WA export seed potato industry. Peter says that is result their involvement in a wide range of research projects including some innovative and uniquely funded ones aimed at development of overseas seed potato markets.

Peter said the WA potato industry has long recognised the importance of market development projects as well as those aimed at improving the efficiency of existing markets. "That's probably because the WA horticulture industry has always had to focus on export markets for our product," he said.

Peter's enthusiasm for export seed development began with his involvement in a Curtin University marketing skills project in 1993 which investigated export markets for potatoes from WA. He said the project brought the disease and pest free status of WA potatoes to the attention of the international community and sparked interest from operators of research programs in the Philippines, Vietnam and Nepal.

Peter said policymakers quickly realised that for WA to develop a competitive export seed potato industry a range of research projects needed to be undertaken, including some to address the important issues of overseas market development. "They also realised that with limited funds available through HAL for such projects some additional sources of funding would need to be found," he said.

Early efforts by DAFWA and its potato project team to establish additional sources of funding proved difficult and frustrating at times. However they have borne fruit in recent years with the Australian Government's Overseas Aid organisation AusAID and the Australian Centre for International Agricultural Research (ACIAR) among several organisations which have provided funding support for potato development projects involving the DAFWA potato project team.

AusAID supported a recently completed project aimed at enhancing the production and management of potatoes in the Red River Delta in Vietnam and ACIAR is funding one to optimise of the productivity of the potato/brassica cropping system in Central and West Java.

Peter says the benefits of such projects to the WA seed potato export industry and to the Australian potato industry are numerous.

"The Vietnam project demonstrated increased profitability through the use of best management practices including the use of Australian seed potatoes," he said.

"It has helped us to build valuable relationships with potato producers and researchers in Vietnam and that country is now a market for Australian seed potatoes. It has also led to commercial scale testing of the Eben variety in Thailand using seed supplied from Australia."

The Java project, Peter said, would increase returns from crops planted with imported seed and so make Australian seed more attractive to Indonesian customers. It was also expected to result in the incorporation of Australian seed in the Indonesian seed potato scheme.

Peter said such projects complement the HAL sponsored overseas projects which also involve the project team and which are aimed at improving access for Australian potatoes to markets in countries such as Indonesia and Sri Lanka.

"Involvement in such projects also provides a host of indirect benefits for researchers and the industry," he said.

"It has given our research team a unified goal and led to unique collaborations involving agronomists, pathologists, economists, extension officers and administrators. It also leads to collaboration and regular contact with a range of potato experts in overseas countries, which is essential to the working of any export market."

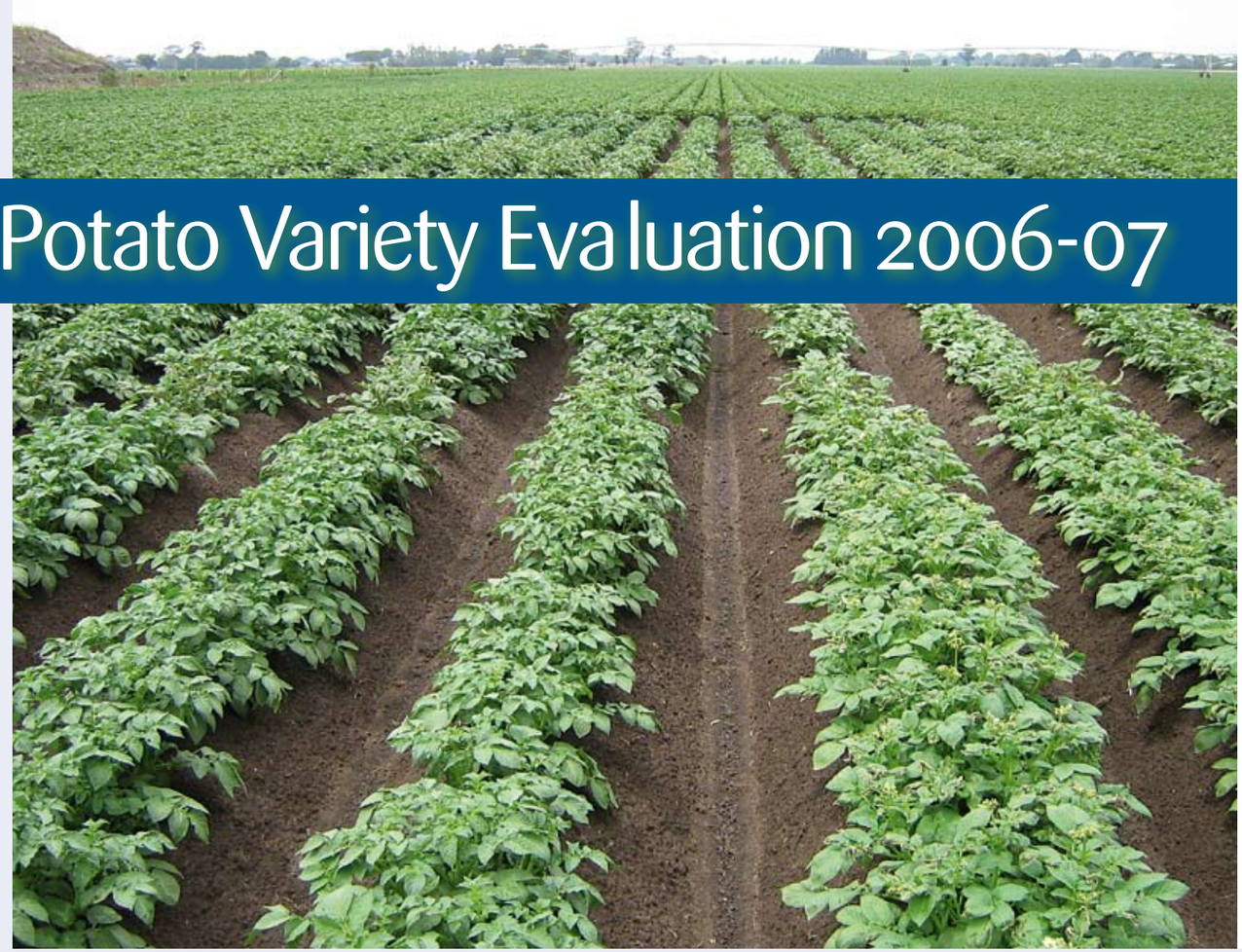
Peter says the research team is now more focussed on increasing markets for seed potatoes and the work has given the team a broader perspective on the many factors that contribute to successful potato production.

The success of the overseas projects program has also led to significant changes in Peter's day-to-day work routine. He now averages about three overseas visits a year to assess progress on various research projects. He also hosts a steady string of reciprocal visits by overseas potato experts eager to learn more about Australian produced potatoes.

"Sometimes there are months where I spend more time talking to overseas producers about the Australian potato industry than I do talking to growers in Australia," he said

Recently, Peter headed off overseas again, but it had it had nothing to do with his project work. He was heading to Lombok Island, east of Bali, with his wife and two children to mark the occasion of his 50th birthday with a week's holiday.

Arnotts Crisping Potato Variety Evaluation 2006-07



Potato variety evaluation trials can be a slow, involved process. Christine Priestly finds out what the benefits are for industry.

Potato varieties currently being trialled by Arnotts Snackfoods are showing encouraging signs they can be stored for longer periods, creating potential to reduce losses in the processed potato industry.

"The biggest thing for us at the moment is that some material is showing promise for storage capacity," Allan Smith, National Agronomy Manager for Arnotts Snackfoods, said.

"We can see how that trades off against yield or other performers."

While analysing the storage capability of new varieties isn't the main focus of the project, it is an important factor in reducing losses for the processing industry which due to logistics within the supply chain, is forced to rely on potato storage.

"Given the competitiveness in the industry we have now, anything we can use to generate efficiencies is something we're very keen to pursue," he said.

Allan explained that crisping trials can be quite complex. The industry is looking for a number of different characteristics that affect the quality of the potato. Varieties that show promise in some areas may be lacking in others, so it's a constant balancing act.

"Variety development is a slow process and it often involves weighing up the trade-offs," he said.

The project, which is the latest stage in ongoing trials to eliminate problems encountered in current processing varieties, has involved assessing cultivars for performance in four key areas for the competitive snack food industry:

- Improved yield,
- Resistance to disease,
- The tendency of the variety to convert starch into sugars in processing, and
- Increased solids.

"The snack food industry as a whole is a very competitive market; potatoes compete with other forms of snacks and within the potato snack food retail market there's an intense level of competition," Allan said.

New varieties are developed and evaluated for factors that will improve competitiveness, including issues such as cost efficiencies.

"One of the best ways to do that is by improving yield," he said.

Other methods include using varieties that are less susceptible to diseases and variations in the environment which creates improved agronomic and processing efficiencies, reducing the risk to the processor and the grower.

"There are a number of traits in a potato that can have a significant impact in the way a factory converts the potato into chips such as the level of solids in the potato, and the amount of product waste due to shape, blemishes and disease," Allan said.

While yield drives cost efficiencies, which is the biggest leverage a grower has to improve return on a potato crop, Allan indicated the ability of potatoes to resist turning starch to sugar in cold environments is a key opportunity for the Australian growing industry.

"Growers have moved out into newer and potentially more extreme environments to get what we need," Allan said citing the example of processed potato crops now grown through winter along the Murray River.

"This has a number of risks attached to it because the potatoes start growing in a very hot environment and when they're harvested it gets very cold and that can affect the processing quality quite significantly," Allan said.

"Atlantics are particularly susceptible, so if we can find a variety that has a reduced tendency to convert starch to sugars in processing you get a much higher chance of producing nice, clean chips, and that then allows you to use that river region as an autumn/winter delivery time much more reliably," he said.

Another key factor for the crisping industry is solids – that is, the density of the potato. The more water contained in a potato, the more costly it is to make chips.

Allan indicated Arnotts offers financial incentives to growers for delivering potatoes with high solid content.

"We're picking from a range of varieties and trying to assess if there's anything that will be of benefit to the industry", Allan said.

"There's some indication that there might be some potential there but there's nothing that's outstanding at the moment. And that's the challenge with variety development. It's not very often you come up with something that you can point to and say, 'there's a development,'" he said.

Allan indicated the program has become more focused and the trial work more sophisticated in recent years, with the data collected by the evaluation program a valuable tool for potato breeders.

"If we can get valid data on how varieties that come out of that program react to various issues like certain diseases, we can feed that back into the breeding program and hopefully allow it to become more focussed in developing varieties for us," Allan said.

The Bottom Line

- Trialled varieties are showing possible storage benefits
- Current trials are yet to be concluded
- Information gathered is being fed back to potato breeders

Potato R&D

Further information can be found at ausveg.com.au

CEO's message

Following on from the success of the Vegetable Industry Conference, potatoes continue to be the topic of discussion, with recent media reports highlighting potential shortfalls of supply as a result of drought, flood and frost conditions.

Although rainfall has picked up in many areas, water availability is still a big concern for growers with rain only meeting current needs, with little going into storage. In fact, NSW and Victorian potato growers have indicated if things don't improve, they will be forced to take the decision not to plant new crops. This is a major decision that emphasises the importance of the current water debate and has major implications for the local industry, particularly as we head into 2008, the United Nations' sponsored Year of the Potato.

Next year presents a fantastic opportunity for local potatoes to be promoted both nationally and internationally to the consumer as well as a unique opportunity to claim the world stage, with plans already underway to further develop potatoes' appeal.

Attending the New Zealand Horticultural Conference in early August, I was struck by the apparent willingness of both New Zealand and Australian attendees to cooperate and collaborate in an effort to advance Australasia's position, tiny though it is, in the world marketplace.

A big issue for NZ horticulture at the moment is the availability and policy regarding seasonal labour similar to the situation that Australian growers are experiencing

Like Australia, NZ is concerned with developing industry participants from young growers to business employees and employers so they have the skills to deal with the ever increasing challenges faced by the horticultural industry.

The high value of the NZ dollar is starting to erode crop returns for NZ growers who export over 50 per cent of their production. This also has the potential to impact on Australia, despite being a low exporting country for potatoes. We have been experiencing a shortage of product and could risk importation of crops from countries such as NZ to make up the shortfall.

Speaking of international concerns, the third meeting of the National Potato Cyst Nematode (PCN) working group was held recently, comprising federal and state government regulators and industry representatives. The meeting continued work on the comprehensive plan developed in February to control and eradicate PCN in Australia. The words of Finlay Dale from the Scottish Crop Research Institute ring loud and clear where PCN is a huge problem – "Get on top of PCN fast while you can or it will cost you big-time".

John Roach
Chief Executive Officer
AUSVEG

Skills survey a chance for growers to be heard

A new survey currently being conducted is the first stage in a new program aiming to improve growers' business management skills.

The program, Foundation Project 5 - Investment in Business Skills Development, aims to develop the skills and requirements the industry needs based on feedback from vegetable industry members, ranging from growers to businesses in the supply chain.

"Business management skills are as necessary in operating the farm as any of the more practical tasks and the vegetable industry is taking a lead role in developing its people through acquisition of business and leadership skills," Dianne Fullelove, People Development Coordinator with AUSVEG said.

"This is a chance for growers to have a say about which management skills they need and how they would like those skills to be rolled out for the industry," she said.

Dianne indicated the objectives of the project are to;

- Identify the development needs of people in businesses and organisations at all levels of the vegetable industry value chain
- Engage growers in the development process; create awareness and motivation for participation in people development activities
- Build the Australian vegetable industry's capacity to access existing business skill and leadership programs and funding sources
- Facilitate the refinement of existing programs to meet the requirements of the vegetable industry participants

Dianne believes business management skills can make a large impact on the bottom line for growers.

"If you have the skill and confidence to negotiate a better return for your produce or a reduced cost for inputs like fertilisers, it will mean a higher net profit in your pocket," she said.

The survey is available in this issue of *Potatoes Australia* or by contacting Dianne Fullelove, People Development Coordinator on 07 3374 4111 Mob 0400 960 695 or email dianne.fullelove@ausveg.com.au

Dead pan data vital for potato industry viability

The lack of specific and detailed economic data on the potato industry has been considered a longstanding hurdle to industry development. AUSVEG Economic Policy and Research Manager, Ian James, explains how that is starting to change.

It is now widely recognised that there have been major deficiencies in data and information on the Australian potato industry. The Taking Stock Report on the potato and vegetable industry in late 2005 identified that a lack of quality and timely economic data and analysis on many aspects of the industry was a serious impediment to informed decisions by industry bodies, government and individual businesses. Launched in 2006, VegVision 2020, in recognising knowledge 'as the key asset of businesses and industries' saw a critical strategic imperative to be the provision of 'advanced industry data and information systems to meet future needs'.

This lack of data has been a serious dis-service to the Australian potato industry. There has been little time series data collection, the lifeblood of economic analysis, on aspects of the potato industry. There is no economic evidence of the impact of the potato industry in regional areas of Australia. Economic models traditionally have not been broken down to detail the potato industry so it has been difficult to use modelling as evidence on the economic impacts of say a major pest incursion e.g. potato late blight, PCN or potato spindle tuber viroid.

Many growers feel that with the amount of bureaucratic forms they are required to fill in there is a wide range of detailed data on the potato industry available in a central depository. Simply, there is not. There is an expectation that if the industry needs data, that it is somebody else's responsibility. Further there is a view that data collection is costless. Even when inadequate data is seen as a problem, no one wants to pay for it.

AUSVEG has sought to correct the problems created by inadequate data on the industry by adopting a strategic approach. AUSVEG has provided a significant voice for the potato industry which has resonated through government departments. After years of neglect, official statistical agencies are now devoting resources to data collection on the industry. The strategy is dependent on the support of the industry across the board, but in particular potato growers who have to provide much of the data and the money. The Australian Vegetable Industry Development Group (AVIDG) has provided some initial funding and Horticulture Australia Limited (HAL) and the Federal Department of Agriculture, Fishery and Forestry (DAFF) have been extremely supportive.

In setting up the strategic direction for data collection on the industry a decision had to be made as to the value of data against the cost involved. The aim of data collection on the potato industry is not to be able to answer every request for data but to provide the data deemed necessary to enable potato growers to run profitable enterprises in a rapidly globalising economy.

The first preliminary data from these initiatives is beginning to flow. After cross tabulation the ABS found that there are 30 per cent more potato and vegetable growers than previous data had revealed, 15,000 extra hectares planted to potato and vegetables with correspondingly much higher levels of production than previous estimates had suggested. In short, the potato and vegetable industry is much more significant than previously thought and as such will carry much greater weight in agriculture forums.

Financial performance criteria to be released in early September will enable the industry to identify best practice performance, trends in costs and in conjunction with data available from competitor countries reasons for lack of international competitiveness.

Comprehensive trade data for the potato and vegetable industry now available shows the pressure that the industry is under from import competition. The first nine months of the 2006/07 financial year reveal a 72 per cent jump in frozen potato imports on the corresponding period of last year. If governments ever needed data to convince them of the pressures being faced by the processing potato industry this trade data proves it.

Industry data collection is often perceived as boring and not particularly relevant to individual potato farmers, however most of the key issues facing the Australian potato industry lie beyond the farm gate. The provision of data to enable analysis of these problems is essential and will determine the future viability of the industry. AUSVEG appreciates the support of growers in achieving the database required for the industry and will provide updates of improved data as it comes to hand.

The AUSVEG strategy involves three national data collections supplemented by bottoms up data and information from more localised areas including Industry Development Officers, state agriculture departments, seed companies, processors, wholesalers and retailers.

The three national strategies are:

- Detailed production and potato establishment data through an improved Agriculture Census and Agriculture Surveys which AUSVEG has devised in co-operation with the Australian Bureau of Statistics (ABS)
- Yearly monitoring of the financial performance of potato and vegetable farms conducted in broadacre agricultural industries by the Australian Bureau of Agriculture and Resource Economics (ABARE)
- Detailed trade data collection attained from the Australian Customs Service (ACS)

Playing it safe on the farm

Agriculture and horticulture enterprises produce commodities of more than $30 billion value per annum on around 135 000 enterprises spread across all states of Australia. However, that production is associated with a high cost in terms of human injury. David Jarwood investigates the greatest areas of risk to growers.

Farmsafe Australia, the national association of agencies with a commitment to reducing injury risk on Australian farms, is alarmed at the high number of death and accidents of Australian farms that are costing the agricultural sector between $500 million and $1.3 billion each year.

John Temperley is Executive Officer of Farmsafe Australia and helped produce the *Health and Safety in the Horticultural Industry: An Industry Strategy 2004-2009* aimed at reducing the risks associated with horticultural production.

He said accidents on farms in Australia caused an average of 150 deaths each year and over 6000 injuries that required compensation and/or hospitalisation.

"Lack of safety on farms is a huge problem," he said.

"People working in the horticulture industries are exposed to a risk of injury associated with a range of hazards, many of which are common to other sectors in agriculture, some being specific to horticulture."

Workers' compensation claims data also suggest that workers in the horticultural and fruit growing industries might be at greater risk of pesticide exposure than other agricultural industries.

John said the *Health and Safety in the Horticultural Industry: An Industry Strategy 2004-2009* identified the key risks and listed areas for improvement.

"The important part now is for farmers to implement health and safety into their business plans," he said.

"We really need to have the leaders of the horticulture industry leading by example and encouraging others to do the same."

John said many farmers believed that health and safety was an imposition on their business without realising the productivity gains to be achieved through a safe workplace.

Some of these risks include:

- Mechanical hazards from machinery associated with ploughing and harvesting, transportation of goods and workers (ATVs, farm utilities), hand-tools in the workshop and manual handling in the field and in packing sheds
- Biological hazards - moulds, saps and infectious diseases such as leptospirosis, legionella
- Chemicals – insecticides, fungicides and herbicides
- Dusts
- Solar radiation – working outdoors in heat and sunlight
- Electricity
- Noise – causing hearing loss and tinnitus

"Health and safety needs to be given the same importance as other areas of farming, such as planting, growing and harvesting.

"In fact, it should be given the highest priority and be the first step in the business plan."

John, who works for the Australian Centre for Agricultural Health and Safety out of the University of Sydney, is a rural scientist and moved in to the area of health and safety about 10 years ago.

He co-authored the publication *Health and Safety in the Packing Shed: A Practical Guide* with Associate Professor Lyn Fragar, Director of the Australian Centre for Agricultural Health and Safety. The guide provides information to improve and ensure the safety of those who work in packing sheds.

It provides guidelines on the hazards and risks associated with fruit and vegetable production and the packing shed and practical guidelines on how to implement effective occupational health and safety (OHS) risk control that will not only reduce risk, but will assist producers to meet OHS regulatory requirements.

This guide forms part of the resources available in the *Managing Horticultural Farm Safety* package that provides horticulturalists with hazard checklists, safety induction and training templates for workers and contractors and guidance material for horticulturalists to manage health and safety on their farms. These resources are available for free from the Farmsafe Australia website www.farmsafe.org.au.

"One of the most important issues to consider when planning for safety in the packing shed is the overall plan and layout of the various sections in relation to each other," John said.

"Smooth flow of produce and of people and of work is not only more efficient it is generally safer for workers, contractors and other bystanders."

John said the danger posed by forklifts was very high in an ill-designed packing shed.

"The operation of forklifts in packing sheds has long been associated with death and serious injury. Careful attention is required by the employer and all workers to ensure every person's safety," he said.

John said ergonomic factors were also very important in the packing shed.

"Standing to work on hard surfaces such as a concrete floor causes pressure on feet, large joints and backs, and is associated with musculoskeletal pain and injury," he said.

"Pain, fatigue and injury to muscles and joints including back, neck, shoulders and wrists is a high risk where the working height is too high or too low for workers and/or where work involves stretching and/or twisting, or awkward movements."

John said the potato industry had many potential safety issues. As well as those listed above, he said, there were hazards associated with harvesters, overhead irrigation systems, exposed pump shafts, channels, lifting, falling bins grading and washing machinery and the speed of vehicles around the farm, to name just a few.

John said what made a successful health and safety program was one that revolved around extensive consultation with the workforce, a comprehensive safety induction program and regular inspection of the packing shed and machinery hazards.

1. *Soil dilutions of Actinomyces the group of bacteria to which common scab causing Streptomyces belong.*
2. *More soil dilution of bacteria.*

DNA detectives investigate potato's good guys and bad guys!!

In soil there are many living organisms, some of them are good guys that promote plant growth, are involved in nutrient cycling, or suppress disease. Other organisms are bad guys; typically they cause disease and reduce production/quality. Research within the PPR&D program is looking at ways of testing soil to detect the good and bad organisms that are present in soil to ultimately allow growers to make more informed disease management decisions. Dr Nigel Crump from Victorian Department of Primary Industries tells us more.

PPR&D researchers, based in South Australia, Victoria and New Zealand, have developed diagnostic tests that identify which potato disease causing pathogens are present in soil and measure the relative amounts of a pathogen in a soil sample. The target diseases for these tests include common scab, powdery scab, Rhizoctonia and more recently nematodes. The tests are based on DNA, the genetic code of living organisms, and are similar to that used by forensic crime investigators. In simple terms, a unique piece of the DNA of the target pathogen is copied many times using a method known as PCR (polymerase chain reaction). This allows scientists to calculate how much of the pathogen is present in a sample. The process can be done quickly as opposed to conventional microbiological methods used by researchers which take up to a month complete.

New research within the PPR&D program is using DNA technology to identify beneficial organisms that suppress soilborne diseases of potatoes. This research involves collaboration with DPI Victoria and Agriculture and Agrifood Canada. There are many organisms present in soil and we know little about some of them. However, the use of DNA technology allows us to identify the beneficial organisms, which is a critical step in understanding a healthy soil. As part of this research, the researchers want to be able to work out how to stimulate the beneficial organisms in soil to enhance the suppression of soilborne diseases of potato. This will involve looking at what happens to the beneficial organisms when a soil amendment is added to soil such as fish emulsion, lime or the incorporation of a green manure crop into soil. Preliminary research in Canada has shown that soil amendments may feed the beneficial organisms and thereby suppress disease.

So what does this mean for potato production?

It is just like in an old war movie -we need to know; Who are the bad guys? Where are they hiding? How many of them are there? And, how many allies do we have on our side? Knowing this information we can then put a plan to attack and neutralise the enemy, in this case soilborne diseases of potato.

The amount of pathogen DNA detected in a sample may be an indication of disease risk. All plant diseases are influenced by the amount of pathogen inoculum, the environmental conditions and the susceptibility of the host. The PPR&D researchers are currently validating the relationship between amount of pathogen DNA in soil and disease found in potato crops across many locations in Australia and New Zealand.

Potato paddocks can be selected and managed based on the measured disease risk. Knowing the estimated disease risk prior to growing a crop would allow growers to match varieties and seed to the estimated disease risk. For example, a field is tested and found to have a high powdery scab risk. The grower could then use a powdery scab resistant variety in that field, or grow a ware crop as opposed to a seed crop, or grow a G4 seed crop as opposed to the G2 crop.

The tests are an important research tool, allowing scientists to better understand how treatments affect the level of pathogens and beneficial organisms in soil. This will lead to improved disease management options being developed in the future. For example, using the diagnostic tests we can now monitor the changes of pathogen load over the entire rotation and identify practices that lower the disease risk. If we can identify which organisms can reduce soilborne potato disease and develop processes that stimulate or promote these organisms, this could provide a new option for disease management.

These diagnostic tests are examples of how good science can be used to find answers to industry problems.

SPOTLIGHT ON:

Bacterial wilt of potatoes

Bacterial wilt of potatoes *(Pseudomonas solanacearum)* is a destructive disease capable of causing up to 75 per cent losses in potato crops and is most active during the summer months with high temperatures and abundant moisture.

The disease can attack potatoes at all stages of growth and will remain infective indefinitely. The disease is easily spread, but difficult to control. The method of handling infected crops will largely determine the likelihood of further spread of the disease.

Severity of the disease can increase if it is found in plants in association with root nematodes. Nematode infestation changes the physiology of the plants, increasing susceptibility to Bacterial wilt.

Bacterial wilt is important to the potato industry and any suspect crops must be reported to the relevant authorities.

Symptoms of the disease

Field symptoms are usually similar to those of other wilt diseases, including black leg, and to insect damage. Also, wilting is usually only seen during high temperatures and may be confused with localised water stress.

Check on potato plans regularly to determine the cause of any suspicious wilting before bacterial wilt is confirmed.

Plant symptoms

- Wilting of single or isolated plants during hot weather
- Brown colouration of the inside of stems and roots
- Breakdown of tissues and development of a creamy-white bacterial slime which can be squeezed out of the tissue
- Tuber symptoms
- Weeping of slime from the eyes of the tuber, commonly known as 'sore eye'. This can be disguised by a plug of soil when the tuber is first dug
- Discolouration of a ring of tissue about 4 to 5 mm below the skin
- Slime developed in discoloured tissue which can be squeezed out as beads of pus

Internal symptoms include darkening of the vascular ring. Creamy white pus can be forced from the discoloured tissue when the tuber is squeezed.

External symptoms on the tuber first show as 'weeping or sore eyes'.

General prevention

Bacterial wilt is most commonly transferred from property to property by the seed. As far as can be determined, all local outbreaks have been caused by use of diseased seed.

While all care is taken during seed crop inspection, to detect the presence of bacterial wilt, the inspections are often during the cooler months when the disease is least likely to be seen in the field. No guarantee can be given that even with approved seed there will be no risk of contamination; however, the risks are less than when table stock is planted. Check all seed before planting for the presence of any suspicious symptoms.

Cutting the seed increases the spread of bacterial wilt from infected tubers. Frequent sterilisation of cutting knives in 2 per cent sodium hypochlorite solution is a worthwhile precaution during cutting.

When borrowing any potato machinery, thoroughly clean it down and sterilise it with a hypochlorite solution for control of bacterial wilt and other soil borne diseases.

Sterilisation

The recommended material for sterilisation of equipment and machinery is a solution of sodium hypochlorite. The commercial product contains 12.5 per cent available chlorine and is diluted by adding 1 L of product to 12 L of water for a 1 per cent solution (or 8 L in 100 L water). As the chlorine is lost when in contact with soil, very dirty machinery may need a second wash with the solution to remove softened clods.

Other chemicals such as methyl bromide may be used to fumigate sheds and machinery, but this can only be carried out by a licensed operator.

If bacterial wilt is confirmed on your property you must:

1. Restrict access to the paddock to prevent spread from the affected crop on machinery or by stock.
2. Harvest the crop as soon as practical to reduce development of the bacteria.
3. Hold the harvested tubers in a safe shed for 14 days or as instructed to allow development of the disease before attempting regrading and sale.
4. Use secondhand bags in the field where harvesting into bags is needed.
5. Where sale of the graded tubers is considered to be practical and safe, then specially marked bags which can be destroyed after use may be needed.
6. Sterilise, with an approved material, all bins, machinery and handling areas, including sheds, which have come into contact with the affected crop. Where soil adheres to any surface it must be removed by washing and any clods broken down to allow the sterilant to reach all of the material. All wash water must be collected into a safe sump to prevent it contaminating new areas. A wash with hypochlorite solution should be followed with a water wash to reduce corrosion of metal.
7. Quarantine affected paddocks to control the disease and growth of all potatoes and related crop and weed plants, such as tomato. Nightshade must be controlled to prevent carryover of the disease in the field.

By Rob Floyd, Plant Pathologist, Division of Plant Industry and Neil Delroy, Research Officer, Division of Horticulture. Information supplied by Dept of Agriculture WA.

SPV funds Bacterial wilt test

SPV funds Bacterial Wilt Test – In January 2007, Seed Potatoes Victoria (SPV) entered into an agreement with Agriculture Victoria Services Pty Ltd to establish a diagnostic capability to detect *Ralstonia solanacearum*, the casual agent of Bacterial Wilt in potatoes and potato tubers.

Additional funding will be provided by Abel Agrico and BGP International. This test follows the European Union Protocol and is therefore currently world's best practice. Growers interested in using the test should contact:

Brendan Rodoni, DPIV Knoxfield
phone: 03 9210 9264 **email:** Brendan.Rodoni@dpi.vic.gov.au

SPV launches best practice DVD

Seed Potatoes Victoria (SPV) has recently launched a free instructional DVD on safety and best practice methods for harvesting and grading potatoes.

Entitled, "Induction and Safety Program for the *Victorian Seed Potato Industry*', the DVD is designed to be used as part of a grower's induction program for new staff covering on farm safety practices and providing examples of ways to minimise the spread of potential diseases or viruses through improved hygiene practices.

'The DVD was developed to bridge the problem of varied levels of comprehension between farmers and their staff,'
SPV Executive Officer Adie Kriesl said.

SPV commissioned the project after identifying widely varying levels of safety and hygiene knowledge in farm workers, highlighting the need to provide a basic standard of information to all workers.

Although growers often have different ways of doing things, there's a lot that they have in common and this DVD may even be able to help streamline some of those processes," Adie said.

"Through anecdotal evidence, we've found that farm hands with a good level of safety and hygiene knowledge can improve productivity while reducing farm-machinery related injuries," she said.

"The DVD also showcases the high standards our growers have. We intend to promote the DVD on a marketing level as well giving the production a dual purpose.

Formed in 2000, SPV is a state-based seed potato grower organisation which has replaced the Victorian Seed Potato Growers Council (VCSPGC) and represents the interests of growers in both Victoria and South Australia.

The organisation works in consultation with ViCSPA (the policing body for the Seed Potato Certification Scheme).

The DVD is available to growers outside of SPV. Please contact Adie for further details.

Adie Kriesl, Executive Officer, Seed Potatoes Victoria
phone: 0409 510 089 **email:** spv@dcsi.net.au

Chips a look at what's new in potato information and technology

Potato World

Potato consumption in China growing rapidly. The explosive growth in fast-food industries in China is driving an annual increase in potato chip consumption of around 20 per cent. This demand is being met by importation of potato chips, but there is also a growing need for high quality potato seed production in China. While mainly white-fleshed North American varieties are being used, such as Shepody, Russet Burbank, Kennebec and Atlantic, there is rising demand for yellow-fleshed varieties. Interestingly China exports chips to Japan, which is also a rapidly growing market. *2007, number 2, p. 9.*

To be more efficient with water will be this century's greatest challenge. This article is an interview with René van Diepen, the Director of the Dutch Potato Organisation (NAO), who was asked to comment on three questions. In response to the question *"What makes Dutch seed so unique?"* René noted that it is very high quality, and this begins with the large range of cultivars available through good breeding programmes and the requirements of the 65 counties to which the Netherlands exports. Secondly, the growers and research institutes work together to develop production systems for very healthy seed. Finally, the government agency responsible for agriculture is very proactive in helping with problem identification and solution. When asked *"How can the sector maintain or improve its position in coming years?"* René's response was to keep innovating, not just in new varieties, but also in new technologies and disease control methods. To the final question *"What is the sector's greatest threat?"* René replied that water is a major issue and that it must be used more efficiently. Agriculture is already using 70per cent of the available ground and surface water, and potato production has several advantages over other major crops. For example, the seed potato has its own water reserves, uses less water than rice, has a higher harvest index than cereals and grows in the cool season when evapotranspiration is reduced. *2007, number 2, p.26.*

Snippets from www.potatonews

Listed below is a small selection of the articles that are posted on the Global Potato News website. Please visit the site for further details or follow the links that are indicated.

United States: Fed-funded potato pest fumigation starts in Idaho. USDA workers have begun treatment of 400 ha of potato fields in eastern Idaho to rid them of potato cyst nematode. The discovery of the nematode in April 2006 led to a ban on US fresh potato imports by Japan, South Korea, Canada and Mexico. The fields are being treated with pesticide and then covered for 2 days with giant plastic sheets, which create a layer of intense heat to kill the nematodes. The treatment is costing $10.7 million, with the funding coming from emergency federal money approved by the U.S. Agriculture Secretary. Landowners are being paid to prepare fields for treatment and then to plant crops that will help eliminate the nematode. Eradication of the nematode is expected to take years. *June 2007: News Headlines.*

Australia: McCain announces increase to Tasmanian potato production. The drought in Australia has been beneficial for at least some Australians. Tasmanian potato growers will be able to increase production by up to 25per cent next year, with the news that potato processor McCain is looking for more growers with reliable rainfall. This will allow Tasmanian growers to recover after the recent loss of a multi-million dollar French fry contract. *June 2007: News Headlines.*

United States: Squeaky clean spuds: US processors demand potato growers pass audit. Major potato buyers in the USA, such as Lamb Weston, McCain Foods and Simplot, are requiring potato growers to undergo a food-safety audit before they will buy their potatoes. The audit may require growers to install portable bathrooms and hand-washing stations in the fields, and berms to shield crops from wastewater runoff. The programme has been voluntary in Idaho for about 7 years and only two growers have failed it during that period. While private companies can administer the survey, using the government-administered audit will allow growers to sell potatoes to the government for school lunch and military food programmes. The audit covers a number of areas, and points gained in one section can compensate for reduced scores in another section. *June 2007: News Headlines.*

United States: Scientists pit fungus against potato tuber moths. Agricultural Research Service scientists in Washington, USA, are investigating the fungus *Muscador albus* as potential biocontrol agent against the potato tuber moth (*Phthorimaea operculella*). In the laboratory, adult moths and larvae inside special fumigation chambers were exposed 15 or 30 g of the fungus for 72 hours. Up to 91per cent of adult moths were killed and up to 73per cent of the larvae died or failed to pupate. The fungus produces volatile organic compounds that are thought to be responsible for these effects. *June 2007: News Headlines.*

United Kingdom: UK retailers cash in on foreign potato fraud. Two leading retailers in the UK are currently under investigation for selling Israeli potatoes as "British new potatoes". British Potato Council experts are co-ordinating with local authorities around the country to determine the extent of the problem. A recent survey in South Wales found breaches of labelling laws in a quarter of the shops and stores inspected. It is believed that the problem is due to accidental mislabelling, because British produce is often in short supply before the main harvest and so shelves are stocked with foreign potatoes. However, there is concern that small and rogue traders may be tempted to cash in on this market, since the prices paid for a variety grown in the UK may be £75 to £300/tonne more than the same variety grown in other countries. *June 2007: News Headlines.*

Early start for potato aphid control. After the mild winter, aphids are flying early in the UK and are already in large numbers this season. Potato seed growers are being advised to start aphid control programmes, even as soon as plants have emerged, to prevent infestation by aphids and subsequent spread of potato virus diseases, particularly Potato Virus A (PVA). Young potato plants are highly susceptible to virus transmission, and insecticides that have fast knockdown and anti-feeding action along with translaminar activity are being recommended. It is also important to adopt an anti-resistance spray programme. Seed growers should be aware of neighbouring crops, such as ware potatoes and vegetables, that may be hosting high numbers of virus-carrying aphids. Crops should be monitored weekly and any plants with aphids present should be marked. Control should be applied if numbers increase rapidly over the week, for example from three or four to 10 aphids on a plant. *June 2007: Press Release: Syngenta UK.*

Best management practices (BMPs)

Best management practices (BMPs) are guidelines for growing crops that are developed by researchers and industry representatives for that crop.

In general, BMPs consider more than just on farm yield and economic returns, as they include practices for producing high quality crops that are acceptable to current and potential markets and are grown in an environmentally sustainable manner. Four articles discussing BMPs in the potato industry were recently published in the American Journal of Potato Research.

The first article (Hopkins et al.) discusses how many growers are reluctant to adopt research-based recommendations because they perceive that they are not practical or directly applicable. One way to field-test the research-based BMPs is to highlight "model" growers by establishing demonstrations comparing BMP plots with plots that have a high input, maximum yield management (MYM) approach. During 2002–2005, 14 such field trials were conducted in the Pacific Northwest, USA. The BMP plots consisted of sampling, scouting and use of prediction models to determine rate and timing of inputs, whereas MYM plots were based on tradition and calendar timing, with little tolerance for pest and nutrient limitations. The MYM plots had 1.7–13.2per cent more fertiliser and pesticide costs than the BMP plots, but only two of the 14 fields gave a financial advantage. BMP resulted in significant financial increases in five fields, with the overall average of the 14 fields giving a 3.2per cent advantage to the BMP treatment. As a result, changes in grower practices towards BMPs have been seen.

In the second article (Zebarth & Rosen) the information needed to develop nutrient BMPs is considered. Nitrogen management is particularly important in terms of potato growth as well as minimising environmental risks, such as leaching and emissions of nitrous oxide. Amounts and timing of fertiliser applications must be considered along with differences between potato cultivars, soil properties, cropping systems, irrigation and climate.

Potatoes are shallow rooted crops and are therefore particularly influenced by changes in water supply. Even small mistakes in irrigation management may affect profitability. The third paper (Shock et al.) describes irrigation BMPs for scheduling irrigation using measurements of crop evapotranspiration and soil water tension. Often only small refinements are needed along with good record keeping to increase profitability and enhance environmental sustainability.

The final article (Way) describes a study in northeast Florida on the source of nutrient loading in the St. Johns River. Here, there are approximately 11,330 hectares of irrigated vegetable cropland, predominantly potato and cabbage farms. These are responsible for a significant portion of the nutrient load, so specific BMPs were implemented in 2000. The BMPs have been implemented on 50per cent of the crop production area and are beginning to have an effect on water quality in agricultural receiving streams.

Evaluation of potato production best management practices. Hopkins et al. (2007) American Journal of Potato Research 84: 19-27.

Research perspective on nitrogen BMP development for potato. Zebarth & Rosen (2007) American Journal of Potato Research 84: 3-18.

Irrigation best management practices for potato. Shock et al. (2007) American Journal of Potato Research 84: 29-37.

Development of a functional, widely accepted and adopted BMP program in response to government regulation. Way (2007) American Journal of Potato Research 84: 39-46.

- **Fertilisers**

Combined effects of selenium and drought on photosynthesis and mitochondrial respiration in potato. Many New Zealand soils are low in selenium and the method discussed in this article may provide a way of increasing selenium in the New Zealand diet. Desirée potatoes grown in Slovenia were given foliar sprays of selenium under both well-watered and drought conditions. Four weeks after the application of treatments, net photosynthesis and respiratory potential of the potato plants were limited by drought, while selenium induced higher respiratory potential. Selenium treated plants also had a higher efficiency of energy conversion 2 weeks after treatment, and the foliar-applied selenium was transported to the tubers. *Germ et al. (2007) Plant Physiology and Biochemistry 45: 162-167.*

Calcium fertilization of potatoes. Influence of calcium fractions in potato tubers. Calcium fertiliser was applied to potatoes as $CaSO_4$ (560 and 2240 kg Ca/ha) or $CaCO_3$ (2240 kg Ca/ha). The concentration of various fractions of calcium was measured at harvest and after 7 months of storage. $CaSO_4$ fertiliser gave greater, more consistent accumulation of calcium in potatoes than $CaCO_3$. Calcium levels were increased in some cases by $CaCO_3$ but this was influenced by weather conditions. *Wulkow et al. (2007) Kartoffelbau 58: 78-83.*

■ Organic farming

Life cycle assessment of Swiss organic farming systems. This study showed clear ecological advantages for organic farming in terms of eco- and human toxicity, resource use and biodiversity. However, higher impacts of organic product were often found for global warming potential, ozone formation, eutrophication and acidification compared with integrated production. There tended to be no systematic differences in soil quality between the two systems. Organic farming should focus on achieving higher yields of good quality by using inputs more efficiently and minimising nitrogen losses. *Nemecek et al. (2006) Aspects of Applied Biology: 15-18.*

Potatoes – conventional, IPM and organic systems in Europe. This paper reviews various systems of potato production and lists the pesticides c ommonly used in these systems. The hazards of these pesticides are described, and methods for reducing or eliminating these hazards through implementing integrated pest management and organic systems are discussed. *Treskic (2006) Pesticides News: 18-22.*

Effects of green manure type and amendment rate on Verticillium wilt severity and yield of Russet Burbank potato. Three green manure treatments were evaluated in two field trials for their effect on soil populations and root infection by V. dahliae, wilt severity and yield of Russet Burbank potatoes. All three treatments reduced inoculum density compared with the control, but the effect was dependent on the level of soil amendment, with higher levels of Austrian winter pea (cv. Melrose) and Sudan grass (cv. Monarch) being required than broccoli (cv. Excelsior). Root infection was not reduced by any treatment. At the highest application rate (24 Mg/ha) all green manures reduced wilt severity, but there was no improvement in tuber yield. *Ochiai et al. (2007) Plant Disease 91: 400-406.*

Diseases

Potato brown rot incidence and severity under different management and amendment regimes in different soil types. Trials in Egypt and the Netherlands investigated the development of brown rot (bacterial wilt), caused by Ralstonia solanacearum race 3 biovar 2, under organic or conventional management systems. In the sandy soils from Egypt organic management gave slightly reduced brown rot, but in the Dutch sandy and clay soils, disease incidence and pathogen survival were significantly increased in organic compared with conventional systems. Two soil amendments, NPK fertilization and cow manure, reduced disease incidence, but to different degrees in the different soils. However, amendment with compost did not suppress disease in any soil type. *Messiha et al. (2007) European Journal of Plant Pathology.*

Volatiles of bacterial antagonists inhibit mycelial growth of the plant pathogen Rhizoctonia solani. This laboratory study measured how a number of different bacterial species and strains reduced growth of the soil-borne fungus *Rhizoctonia* solani. Seven species reduced growth by 80–99per cent, while two others achieved 30per cent growth reduction. Examination of the small organic volatile compounds emitted from the bacteria showed different compositions and complexities, with some species emitting up to 30 compounds. Most of the compounds were species-specific but overlapping profiles were seen for *Serratia spp*. and *Pseudomonas spp*. *Kai et al. (2007) Archives of Microbiology 187: 351-360.*

A new strain of Streptomyces causing common scab in potato. This paper reports a new strain of the soil bacteria *Streptomyces spp.* isolated from scabby potatoes originating in southeastern Idaho. Molecular studies indicate that the strain has recently acquired disease-causing genes from other streptomycetes by a process known as horizontal gene transfer. The new strain has two of the three common pathogenicity determinants, thaxtomin and tomatinase, but lacks the nec1 gene. However, it has a unique 16s rDNA gene sequence that is closely related to similar genes found in pathogenic *Streptomyces spp.* This isolate appeared to be more virulent towards radish and potato than the standard S. scabies strains, and lesions were seen on underground stems and stolons of potatoes as well as on tubers. *Wanner (2007) Plant Disease 91: 352-359.*

Processing

Getting value from wastewater: by-products recovery in a potato chips industry. This paper describes how changes in a crispy chips manufacturing process both reduced environmental impacts and increased economic benefits. Separation of by-products at the source allowed a downsizing of the wastewater treatment plant, which decreased energy, water and chemicals input and the amount of sludge generated.

In addition, added value was achieved through increasing by-product output. Catarino et al. (2007) *Journal of Cleaner Production 15: 927-931.*

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