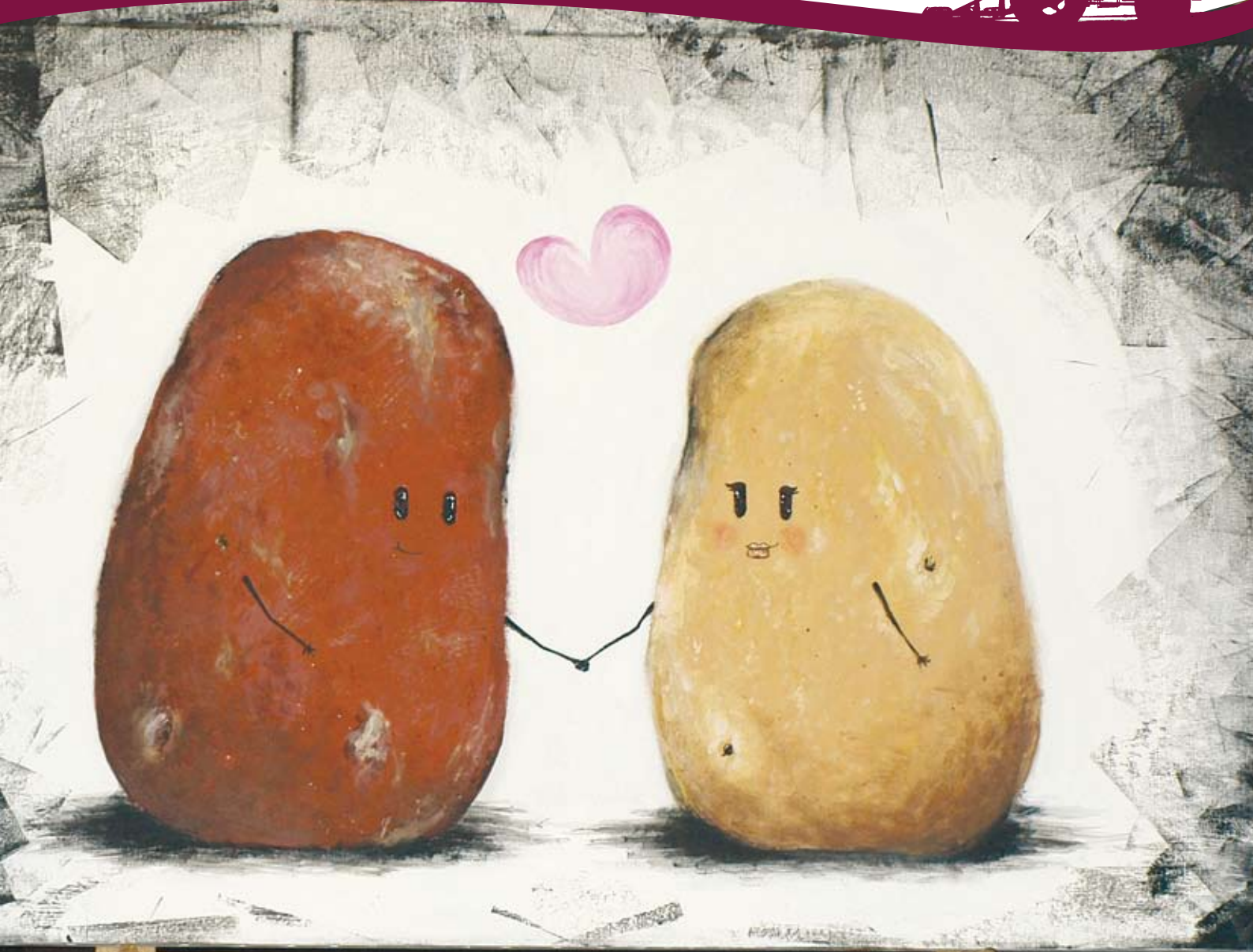


# potatoes australia

Informing and connecting  
Australia's Potato Industry  
June 2008



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Vin Rowe: Beyond top gear  
Vegetable Industry Awards 2008  
International Year of the Potato 2008





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*Potatoes in Love* by Michelle Allen,  
Year 11, Tabor Christian College, SA.  
Winner of the United Nations Australia -  
International Year of the Potato Art Competition



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MEDIA  
RELEASE



## 'Growing a Healthy Australia' 2009



AUSVEG is excited to announce the 2009 Australian Vegetable Industry Conference, to be held in Melbourne, 4 - 6 May.

AUSVEG Chairman, David Anderson said, "Next year's theme, 'Growing a Healthy Australia', demonstrates the industry's commitment to playing its part in addressing Australia's health issues".

"The conference provides an excellent way to showcase research and development outcomes to vegetable growers and offers a fantastic opportunity for the industry to come together and explore future strategies to ensure our success," David said.

Next year's event will build on the success of the 2007 conference, which saw over 500 delegates and 36 exhibitors unite in Sydney.

Over 80 per cent of delegates from the 2007 conference said they would definitely attend again, with 95 per cent of delegates rating the conference and trade show as either good or excellent.

Similar to last year, there is a range of sponsorship and

exhibitor packages available to ensure that industry partners can professionally demonstrate their support to the vegetable industry and its importance to their business.

Once again, the conference welcomes participation from all vegetable industry sectors including general vegetables, fresh and processed potatoes, onions, organics, hydroponics and Asian vegetables.

The 2009 conference will be held at the Melbourne Convention Centre from Monday 4 May until Wednesday 6 May. This will be followed by the National Vegetable Expo in Werribee from Thursday 7 May to Friday 8 May.

"This is an extremely worthwhile occasion for the industry to unite, share ideas, gain valuable knowledge and motivate each other to bring future success for the vegetable industry," David said.

A sponsorship prospectus will be available in July 2008.

For more information please visit [www.vegieconf.com.au](http://www.vegieconf.com.au)





## AUSVEG Chairman's message

The national awards held in Perth at the beginning of June showed the spirit of the Australian vegetable industry. AUSVEG congratulates all the winners and thanks awards sponsors, Landini, Bayer CropScience, Brisbane Produce Market and the Platinum sponsor, Landmark.

We farewell Lisa Maguire, former General Manager/Director of Communications of AUSVEG, and wish her well for the future.

Industry continues to experience staggering rises in input costs. I'm certain that when farm budgets were forecast 12 and even 6 months ago, many people did not anticipate the sharp rises. With budgets being reviewed on a monthly basis, now more than ever we need close alliances with our customers. Accurate forecasting for the next two to five years will underpin how our industry is shaped for the future.

Seed certification schemes continue to reach new milestones, whilst on the other hand national PCN trading protocols are still coming together. It is imperative that we harmonise the way we trade potatoes across Australia and still protect the industry. Although some ground has been gained, it's clear that we need to back the science; it won't let us down.

AUSVEG will host the national vegetable conference in Melbourne next year with the theme, "Growing a healthy Australia". Plan to participate and be sure to put the dates in your diary, because it is always well-attended. As an industry we need to be on the front foot telling the world about the health benefits of potatoes.

Despite the tough trading ahead of us, don't forget to tell the world to eat more spuds!



**David Anderson**  
AUSVEG Potato Group Chairman

## Editor's message

*Potatoes Australia* is about people. We could wax on forever about potatoes – varieties, diseases, best growing practices – but really, it obviously takes people to get behind and drive everything. So, in this edition we take our hats off to all people who are passionate about potatoes, and congratulate those whose efforts have recently been recognised. We look at the Australian Vegetable Industry Awards and bring you a snapshot of the gala occasion, including what the winners said.

Our focus on people continues with a visit to the headquarters of Vin Rowe, an organisation which despite its long presence in Warragul, is as sleek and well-oiled as any of the pieces of farm machinery it supplies. We also profiled Atherton Tablelands grower, Richard Standen and researcher, Robin Harding. Ian James evaluates the Federal Budget's merits for potato growers, while Matthew Wickham reviews the Potato Nutrition Report with its promising news for consumers. As ViCSPA celebrates 70 years in seed certification, Keith Blackmore takes us on a guided tour of the industry in Australia.

We also feature our second Letter from the UK in a report by Scottish agronomist Stuart Wale, and with the insight of a team of experts from Syngenta, we begin a new Q&A column on any issues or problems you might have with regard to use of treatments for your soil and potatoes. At the same time QUT's Professor Peter Grace tells us exactly why healthy soil lines the pockets of successful growers, and we preview retailer IGA's new plan to support potatoes.

The industry has been hit with a good dose of culture with spud festivals, exhibitions, radio shows, and community and school groups doing their bit to ensure the potato gets noticed. We wanted to squeeze some of these tributes into the IYP pages, but the editorial inbox literally overflowed. That said, we think our cover says it all.

I also take the opportunity to congratulate Toni Davies on her appointment as Communications Manager, AUSVEG, and I am certain this magazine will go from strength to strength with Toni's continuing support.

Finally, a correction: In our last edition we said Kevin Clayton-Greene was still researching for DPI Vic. He studied deciduous fruit with them for a while, but these days is focussed on his work at Harvest Moon and on his growing.



**Jenan Taylor**  
Editor  
*Potatoes Australia*

# NEWS


## Seasonal workers plan for eastern Australia

The National Farmers Federation (NFF) has recommended to the Federal Government a number of regional areas in Victoria, NSW and Queensland that it believes should be the first to implement the NFF's proposed Seasonal Worker Visa program for Pacific Islanders in the horticulture industry.

Under the scheme, the regions of Swan Hill, Mildura and Robinvale in Victoria, Griffith in NSW and yet to be determined areas in Queensland should be allocated the pilot programs. The criteria for the selection of those areas include the availability of supportive structures as well as the level of need for labour.

The NFF's recommendations were based on results of extensive research conducted across Australia.


Following the NFF's tour of New Zealand to study its Pacific Island worker project, the body has also proposed strategies to ensure Australian jobs are not jeopardized by the move, and that the rights of overseas workers are equally met.

According to the NFF President, David Crombie, the proposal is widely supported by the Pacific Island nations. "This scheme is ideal and essential in tackling the chronic seasonal labour shortage across horticulture. Implementing a pilot is a necessary first instalment to what can be long-term solution for all participants," Mr Crombie said. 

## Potato producers new captains of industry

Potato growers across the nation are leaving their marks on business and industry, and are being recognised for their achievements. Sam Calameri, a grower from Baldivis, WA picked up the Bill Stevens Award for Excellence (see national awards coverage in this edition), while Victoria's Red Gem Packers and Growers in Nar Nar Goon, scooped Cardinia Shire's Business of the Year 2008 prize.

Red Gem, the only agricultural contender, beat 13 other companies for Cardinia Shire's Business of the Year award. It was praised for being a leader in the Victorian potato industry and for its continued growth in a competitive market. The company sold more than 23,500 tonnes of potatoes and onion produce in 2007, worth more than \$25 million.


Manager Robert Cerchiaro, accepted the award on behalf of Red Gem Packers and Growers at a gala dinner on 9 May. "We feel proud that we're able to run a business that maintains a good reputation. This award further cements that reputation and that of the role of the potato, especially in this—the International Year of the Potato!" 

## Spud king passes

J.R. Simplot, the potato billionaire and co-creator of DRAM personal computer memory chips, passed away aged 99 from natural causes on 26 May.

As a potato grower, Mr Simplot had been a powerful presence in Idaho business and politics and his legacy continues today in Simplot the global organisation and in his fortune estimated to be over \$3 billion dollars.

The entrepreneur began to amass his wealth through a series of shrewd business decisions and investments when at the age of 14, he bought livestock from his earnings at a boarding house. From there Mr Simplot started his potato businesses, planting with certified seed rather than cull potatoes. This move set the standard for Idaho as a giant of the potato industry.

Mr Simplot is perhaps best remembered as being synonymous with advancing the American fast food culture when he struck a deal with McDonalds founder, Ray Kroc, after the Second World War. 

## Precision Agriculture talks

The latest R&D in crop scanning technology, and grower experiences using scanners to improve crop management in potatoes, grain and wine grapes, will be among the topics for discussion when SPAA hosts the national Precision Agriculture Crop Scanning Forum on 8 August.

The Forum will take place at Mawson Lakes, SA and will also feature presentations by keynote speaker, Jim Wilson. Mr Wilson is a potato and grain grower in Scotland and has used innovative approaches to crop scanning technology with far-reaching results.

Jim Wilson has been experimenting successfully with various mapping techniques for over a decade and says "I discovered that on my farm there is a strong correlation between yield and in 1999 I used EMI scanning to map soil types across my farm and to target soil sampling and seed rates on land that is rented annually for potatoes. This allows me to target seed and fertilise to where they will do the most good."

Other keynote speakers at the Precision Agriculture seminar will include David Lamb, Associate Professor, University of New England, Tim Neale, Agronomist CTF Solutions, Queensland, and John Heap, a Research Scientist for SARDI.

www.spaa.com.au 





## PROFILE **Richard Standen**

### Standen delivers

**Potatoes are a key factor in Richard Standen's farm mix. Graham Gosper reports.**

Anyone who believes that the days of small-scale potato production in Australia are all but over should spend a few hours talking to Queensland Richard Standen.

Richard, 44, operates a 95-hectare farm in partnership with his 84-year-old father on the Atherton Tablelands near Tolga, about 100km south-west of Cairns. They grow about 20 hectares of peanuts, 15 hectares of maize and three to five hectares of potatoes. A further 40 hectares of the farm is sown to grasses for pasture seed production and the rest is open forest.

Richard planted his first potato crop on the farm in 1984 after neighbours told him about opportunities for selling Queensland winter potatoes to fill a market gap down south. He has been growing a few hectares of Sebago potatoes, bagging them direct from the harvester and trucking them to markets in Brisbane, Sydney and Melbourne ever since.

Richard said growing potatoes on the Tableland has provided some major challenges over the years but it has also helped sustain the family farm and given him a lot of satisfaction. "The first year was a disaster," he said. "Prices slumped and we lost the money we had borrowed to grow the first crop. Fortunately the peanuts were good that year and we managed to keep going."

#### GROWER INFORMATION

Producers: **Richard Standen together with parents Bill and Pat Standen**

Property: **Trevelmond**

Location: **Tolga, Queensland**

Size: **95 hectares**

Crops: **Peanuts, maize, potatoes and grass seed**

Soil Type: **Red volcanic**

Avg Rainfall: **1000-1200mm**

As things improved, Richard planned to increase the area he planted, but to achieve that he needed more water than his existing five-hectare irrigation licence provided. "The authorities took years to process our application for an increased allocation then finally rejected it," he said.

Apart from the water limitation there have been other hurdles. "With our nearest worthwhile potato market more than 1700 kilometres away in Brisbane we feel the effects of transport cost rises more than most," Richard said. "That is on top of the impost we pay to get our seed from down south."

Good market returns during the early years helped offset such costs but as more northern growers with larger farms began targeting the southern markets margins have been shaved. With that in mind, Richard and other smaller growers on the Tablelands have tried to reduce their costs in other areas. "Because of our relative isolation up here growers tend to work well together when it comes to solving problems," Richard said. "Over the years we have been able to spread the cost of buying expensive equipment by sharing the use of machinery such as planters and harvesters between neighbours."

In past years Tablelands growers have also worked together on projects aimed at reducing fertiliser costs and reducing crop loss through the introduction of Integrated Pest Management (IPM) techniques. Richard said one successful offshoot of the IPM project has been the development of program using owls to control rodents on farms. The program involves the setting up of owl boxes and owl perches on farms. It is now being supported by more than 100 landowners on the Tablelands and has had a major impact on farm rat populations.

Richard has also been proactive in identifying on-farm cost cutting opportunities. "In some ways the limited size of the potato acreage has worked to our advantage," he said. "It means I can grow potatoes in rotation with our other crops with resulting soil and production benefits. It also means I can keep overheads down by doing most of the potato work myself and only employing labour when necessary. That in turn allows me to adjust planting and harvesting times to take full advantage of market situations and maximise returns."

Richard is unconcerned by the ongoing trend to bulk supply and intends to continue supplying his potatoes in 50 kilo bags

**"With our nearest worthwhile potato market more than 1700 kilometres away in Brisbane we feel the effects of transport cost rises more than most ..."**

while there is market demand. "Potatoes bagged straight from the harvester present well and have a glow that is often missing from those that have been through a grader," he said. "That's probably why there has been a market swing back to some bag supplied potatoes in recent seasons."

Despite the output limits and continuing cost pressures, Richard expects to be growing and selling potatoes for many years to come. He said inspiration provided by the example of his grandfather had helped him to maintain his potato-growing efforts over the years.

"He bought the farm and settled on the Tablelands in the early 1900s," Richard said. "He spent years clearing the land

and building a dam on the creek which runs through the farm. Then he established a system of waterwheels to irrigate land where he grew potatoes of the Up to Date and Carmen varieties in the 1920s and 1930s."

Richard still comes across evidence every day of his grandfather's years of back-breaking work on the farm. "I realise then that, compared to him, I have been getting things easy," he said. **pa**







# Processed Potatoes IAC Committee

**In April, we profiled Fresh Potato Advisory Committee Members. Now we bring you a snap shot on the people behind the Processed Potato IAC, as Chairman, John Gallagher, updates us on the group.**

Four years ago the Processed Potato IAC decided to commission research to address major technical issues confronting the production side of the industry. After analysing the cost to the industry of the different pest, disease and environmental issues, the committee, in consultation with industry and research providers, identified the topics to be funded over the next five years.

To address the issues identified, the Processed Potato IAC has formed strategic partnerships with Australian and overseas research providers. In this way the committee has been able to access the best researchers and leverage up funding. The next five year plan is being developed and will commence in 2009.



## Ken Labbett

Ken has been a seed grower for 47 years at his 72-hectare property at Clarkes Hill, Ballarat. Ken was the Chairman of Ballarat Seed Growers for 17 years, held a position on the committee of Seed Potatoes

Victoria for 13 years, and was its Secretary for about five years. He grows Russett Burbanks for seed and processing and also conducts regular field trials at Clarkes Hill. He sees the Australian potato industry as faring well at the moment despite the food shortage, and believes it should keep going the way it is. For Ken, the most revolutionary thing in the seed potato industry in recent years has been pathogen testing as a strategy for the effective management of plant diseases.



## John Gallagher

John works for the Western Australian Department of Agriculture and Food, and is Chairman of both the Fresh Potato and Processed Potato IAC. He holds a degree in agriculture from Sydney University and has been in the industry for around

25 years. John has also been involved in export management in Australia for 10 years and in project management in Africa for 10 years with particular experience in Sudan, Swaziland, Malawi and Zimbabwe.



## David Antrobus

David grew up in Cheshire, England and says he has "potatoes in the blood stream with father, uncle and grandfather all growing potatoes, and father also running a potato merchant business." David holds an Honours Degree in Agriculture and has

worked for McCain Foods for the last 12 years, spending the first six years of that time in England, before coming to Australia. He became Field Manager for the organisation in 2004. For David, the only way for industry to overcome the challenges presented by climate change, fuel and fertiliser increases and other factors affecting "Agflation", is through innovation.



## David Addison

When David Addison entered the Process Potato industry 30 years ago, it was because he'd recognised the importance of food. He holds a Diploma of Farm Management and has also produced potatoes for McCain Foods and Simplot

Australia. David sees ongoing R&D projects as vital to the future of potatoes. "Our industry, on a global basis is a high cost industry, of which many of those costs are out of our control. Many costs are within our control, and we need to continually focus on managing these. If we can survive by becoming a more efficient industry through difficult trading periods, then we are in a good position to reap the rewards when prices improve," said David.



## Frank Rovers

Frank hails from Koo Wee Rup, Victoria and has been working in the potato industry since the 1970s growing potatoes for the crisping industry. As a grower representative, Frank has been actively involved with research projects that include

potato evaluation trials and more recently soil health. He would like an increased focus on more beneficial management tools for potato growers facing pests and diseases, particularly of the soil borne variety, and he believes that a national PCN testing program should be prioritised to ensure a sustainable future for the industry.



## Chris Russell


Chris grew up on a mixed crop farm near Devonport, Tasmania. After graduating with an Honours Degree in Agricultural Science, Chris joined Simplot, Tasmania in 1996 and has held various roles ever since, including working as a Potato Field Officer

and overseeing Crop Management Services for seed potatoes, commercial potatoes, peas, beans, broccoli and sweet corn. These days Chris is a Senior Agronomist for Simplot Australia. Chris believes the conventional fertiliser approach needs review, as simply increasing application rates is not the best way to approach crop nutrition.



## Allan Smith

Allan has been involved in the potato industry for more than nine years, has been an active participant of the Potato Processors Association of Australia, and has been its President for the past two years. His training and vast experience

began in the sugar and horticultural sector. From there he moved to land management, worked as a purchaser for the snack foods industry and then as a manager for Campbell-Arnotts. These roles prepared him for the many challenges of being in the processed potato arena. For Allan some of the hurdles are the retail side of the industry, consumer perceptions, climate change, input costs and disease effects. He believes that many of these challenges may be addressed via solid R&D systems. 



## Fresh potato marketing development

The *Potato Nutrition and Health Review*, a comprehensive report compiled by accredited practising dietitian Dr Trent Watson, is set for release in the upcoming weeks. It identifies specific health benefits associated with eating fresh potatoes, such as reduced risk of cardiovascular disease (the leading cause of death in Australia) and the potential to reduce the risk of some cancers. The review addresses the role potatoes play in a modern diet and its association with current health concerns, a very useful selling tool for industry. Matthew Wickham, Market Development Manager, AUSVEG, reports.

## Potato Nutrition and Health Review



Dr Trent Watson is the principal consultant dietitian of Clued on Food. Trent has completed a PhD at the University of Newcastle in Nutrition and Dietetics. He combines his interest in workplace health with consultancy positions with food industry and several high profile professional sport organisations. He is a media spokesperson with the Dietitians Association of Australia and is passionate about providing accurate nutrition, health and lifestyle information, particularly concerning potatoes.


Confusion over potato nutritional characteristics amongst the general population has led to the development of the report to dispel myths and clearly define potatoes in a modern diet. The review positively associates potatoes with healthy body weight, antioxidants, diabetes control, improved bowel health and the benefit of high fibre. It also tackles taboo topics such as the glycemic index and carbohydrates, often linked in the media to potatoes and excessive or unwholesome diets.

Whilst the document is clearly beneficial for industry use, the primary target is health professionals who are in a position to pass credible information onto others. Health professionals

include GPs, nutritionists, dietitians, naturopaths, health agencies and other medical related key influencers. These professionals are in a position to relay important information to consumers and dismiss unnecessary health concerns over potatoes. The review is also a wonderful public relations tool assisting to dispel negative associations in mainstream media.

Australia is facing a massive health challenge. In 2003-04, \$78.6 billion was spent on health services in Australia (Australian Institute of Health and Welfare, 2006). Many Australians could improve their life expectancy and wellbeing through proper dieting and physical activity. If Australians ate just one more serve of fruit or vegetables every day, the Australian Fruit and Vegetable Coalition estimates over \$150 million a year would be saved on healthcare costs for cardiovascular disease alone.

Potatoes are a part of a nutritious balanced diet, helping to grow a healthy Australia.

Keep an eye out for your copy of the *Potato Nutrition and Health Review* on the AUSVEG website [www.ausveg.com.au](http://www.ausveg.com.au) 

PT06022

### The Bottom Line

- The report helps to clarify nutritional benefits of potatoes.
- It is a valuable marketing tool for the potato industry.

Further information can be found at [www.ausveg.com.au/levy-payers/login.cfm](http://www.ausveg.com.au/levy-payers/login.cfm)



## IGA's fresh approach a boost for potatoes

IGA Fresh is the fresh produce arm of the independent IGA supermarket network, Australia's third-largest supermarket organisation behind Woolworths and Coles. Graham Gosper asked the retailer about their plans for a new sales strategy for potatoes.

IGA Fresh is moving to increase its nationwide sales of potatoes and its other leading produce lines as part of a supply and pricing strategy review over the next 12 months. The review is aimed at aligning IGA produce supplies with the increasingly sophisticated requirements of supermarket customers and it will involve 1600 IGA outlets throughout Australia.

Produce general manager for IGA Fresh, Nick Pagett, said the review will give IGA outlets and their suppliers the opportunity to grow sales through improved targeting of customer needs. "We are reassessing our strategies relating to potato sales along with a range of our other leading produce lines such as tomatoes, apples, pears and bananas," he said. "We are looking at issues such as product mix, packaging, variety identification and sales development and the development of pre-prepared lines in terms of customer requirements."

IGA Fresh outlets throughout Australia have a diverse customer base. "We have a larger proportion of regional-based customers

than the other two major supermarket chains but we also service large city-based supermarkets and city express stores," Nick said. "That translates to a big variation in customer needs. With potatoes for example, the packaging and other requirements of a regional customer who visits a supermarket once a week will obviously be different to those of an express store customer who comes in to buy something for an evening meal."

IGA Fresh will conduct the review in consultation with its growers and suppliers throughout Australia. "Many of our produce suppliers are in touch with latest international retail supply trends through overseas travel and will have valuable input," Nick said. "Our new strategies will be rolled out during the 12 months and in-store trials will provide customer and store manager feedback."

Nick, 39, has only been with IGA Fresh for a few months but he has more than 16 years experience in produce supply, mainly relating to development of supply chain management strategies. He is convinced that supply chain management is the way forward for all stakeholders in fresh food supply. "It is the best way to maximise the value received by all contributors along the line and the best defense against future cost pressures," he said. "This IGA Fresh review is a step towards better supply chain management. It has the potential to grow sales through greater product variation, innovative marketing and reduced waste and it will benefit produce industries in Australia, including the potato industry." 



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**syngenta**



# Formula one

**When the management at Vin Rowe heard that 2008 would be the International Year of the Potato, they lost no time in organising the design and production of a hat to mark their tribute to the spud.**

“We wanted to pay a small contribution to mark the International Year of the Potato and thought it would be a great idea,” said Patricia Bailey, Vin Rowe’s Marketing Manager.

It might sound a tad odd for a machinery supplier whose shelves bulge with every imaginable spare part, and whose sheds are lined with harvesters, graders and other pieces of agricultural equipment but this was not an unusual move for Graham Rowe who co-owns and operates Vin Rowe along with business partner, Stephen Pike.

The hat initiative was just one of a myriad ways in which Graham rallies for the potato industry, and for the Australian agricultural industry, generally. It is also indicative of the type of business ethos that Graham’s father Vin instilled in the company when he took over its management in 1961.

When Vin took over the management of the company that year, he with two other machinery dealers launched Farm World, the field day that was to become an annual industry event on the national grower calendar. The expo concept was initially to showcase the company and help boost the agricultural industry, and since then, it has expanded to include the display of other primary industry organisations. This year, Farm World had over 600 exhibitors. It was that kind of visionary approach that can undoubtedly be credited for helping to make the Vin Rowe organisation somewhat of a fixture and recognised brand name across the Australian agricultural landscape.

By the time Graham Rowe took over the business from his father in the early 1980s, however, the organisation had undergone a number of transformations. Between 1972 and 2005, while still remaining an agricultural machinery dealer, Vin Rowe became a Nissan dealership and later added the Holden franchise. Graham puts this down to the need to recognise opportunities for growth in alternate scenarios. For him this is about thinking outside the square altogether.

**Even with speculation of Asian potato imports swamping our markets, Graham sees reason for optimism.**

However, Victoria’s suburban encroachment caused Graham to refocus his efforts and look at ways to adapt his company’s strengths for the agricultural sector instead. That meant becoming a farm machinery

supplier once again in 2005. Within three years, Vin Rowe had managed to corner a substantial slice of the automated harvester market, which includes holding around 90 per cent of the mechanised carrot harvester market. That’s not a bad achievement for someone who admits he came to the company without a clear of idea of what he wanted for himself. Yet, armed with his father’s sense of business, Graham has taken the company to strengths that even he says feels at times like aiming far beyond their reach. However, Thorpdale potato grower, Des Jennings, who has also been a long-time customer of the company applauds the direction in which Graham has taken the organisation. “He built on his father’s expertise, and the company’s success is simply about very good management,” said Des. He believes that Graham’s approach has not just benefited Vin Rowe, it has also helped to develop the industry. “Graham has ventured into uncharted areas, and sometimes that included putting a fair bit of money on the line.”

These days of course, there are significant hurdles to overcome to remain competitive in agriculture. There are climate change, rocketing costs, and labour shortages among other things, to

think about. So, how does the company remain on top of its game in a sector so affected?

“Australia’s interesting in that there’s a harvest happening somewhere always...they’re planting all the time which is quite unique from the northern hemisphere,” Graham said. “We [Vin Rowe] have a lot to do with European countries, and they say we’re lucky being where we are. One can’t not be optimistic here in business, so we’ll keep going. We’re surviving by innovating and diversifying.” Graham also firmly believes in staying abreast of what’s happening across the national agricultural industry in order to do that. However, what’s also key, is to look broadly for growth inspiration and that means knowing what is happening beyond domestic borders.

“The way [growers] dig has changed. A lot of innovation in packaging and the way it’s sold. If we follow the United States, then there are a lot of pre-packed veggies as opposed to the type that people have to buy and peel themselves. These days the theory in harvesting is to get the absolute maximum out of the ground with absolute minimum damage. Supermarkets are fussy about what they’re taking. And people are innovating because some of them are starting to look for machines that also cut, pack and store right out of the field.” He said. “There are machines that do that already for lettuce and cabbage and one day it’ll come to potatoes, I think. So there’s a growth opportunity for us in the machines that do those things.”

Graham’s observations mean that he’s also certain that Australia will ride out the current wave of trouble, and continue to be a competitive presence on the world stage.

Even with speculation of Asian potato imports swamping our markets, Graham sees reason for optimism. He believes the Australian producers will adapt to the hurdles, as will consumers to the price hikes. He is positive that the potato industry will find growth opportunities in what is currently happening if it is prepared to adapt and think laterally.

Adaptation, innovation and versatility is difficult without a significant investment in people and Graham admits that for him the biggest challenge has always been about employing people who aren’t afraid of hard work. However, the Vin Rowe record depicts a company whose many strengths include the availability of staff and representatives when and where they are needed across the land. This is essential for a company whose main claim is that they are able to reach most places across the nation within 24 hours, although, Graham admits candidly, “The only place we might struggle is right up north Western Australia, but we can and have made it there within reasonable a time frame.” There are several people on hand at Warragul and a number of sales and service representatives on the road, nationally at all times.

Business, however, doesn’t rest with just supplying service to clients. It’s also necessary to ensure happy staff satisfaction. Some of the staff at Vin Rowe have been at the business for around 40 years, while some of the “newer” members have been aboard since 1993. For Graham, it makes sense to both motivate people and help their development at the same time. “We try to give people the opportunity to be part of what’s going on in the industry world-wide” he said. This might include sending employees on field days, expos and overseas tours to heighten their personal and professional progression. For instance, the



Top: National Sales Manager, Wayne Mills;

Above left: the Vin Rowe sales yard, Warragul; Above right: Vin Rowe at Farm World

long-serving national sales manager Wayne Mills or Millsy is a well-known face in the agricultural industry and is as likely to be at potato evaluation trials listening to the latest approaches to pest and disease fumigation as he is in the sales office.

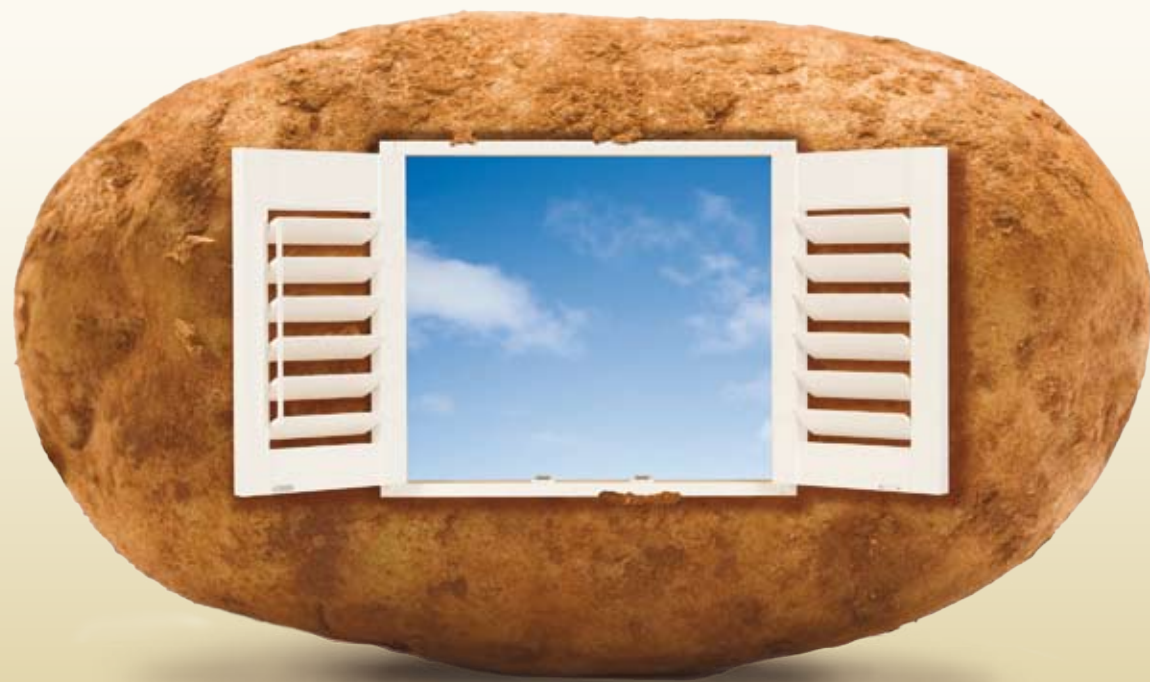
This investment of years also means that the team have, with their accumulated experience, gained a track record for excellent product knowledge. “I’ve been going there for years, because, among other things, their spare parts system is vast and unique,” said Des Jennings, “and I can ask any of them anything about spare parts. Millsy used to be in spare parts years ago and to this day he can make recommendations about parts that are always spot on.”

According to Patricia Bailey, who came from a background in banking to the company more than 15 years ago, Vin Rowe’s people are an essential part of the company’s winning formula, and turning up day after day, year in and year out, is more than just about training and incentive schemes. “We also believe in involving the families as much as possible by inviting all family members to staff BBQ’s, Christmas functions (including a visit from Santa with presents for the kids) and in some instances allowing the family to travel with the staff,” she said. “Graham is generous and a terrific boss.”

So, what about those IYP hats? In a twist of irony, the hats haven’t taken off as well as Graham had hoped they would. They were Vin Rowe’s contribution to the celebration of the potato, but, he had hoped they would advance an awareness among other potato industry companies of the massive potential of the event for their standing in the Australian market. This is frustrating for Graham, who sees this as indicative of a general hesitancy to actively pull together within the Australian potato industry. He believes that with the challenges of rising costs and climate change, the industry could be healthier and evolve if there was more cohesion. “It’s a growth opportunity, and people should be looking for growth opportunities,” he said. **pa**



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## APRP Researchers

### Disease detective

Gretel Sneath spoke to Robin Harding about being a State expert on disease management.



Robin Harding will never forget the day a visiting agronomist drove his ute across an unharvested crop in a bid to talk to his boss.

"The language that came over the UHF was pretty explicit and I've never seen a grown man turn tail as quickly as he did when my boss came bearing down on him in the header," Robin said, laughing at the memory.

The experience helped sow the seed when it came to selecting his future career.

"I knew that farmers want the information, but I also knew that it held little credibility when someone like that bloke turns up," he said.

Instead, Robin teamed his practical experience of a broad range of agricultural enterprises with a Science Degree and an Associate Diploma in Farm Management. Upon graduating, he worked as a technical assistant in the grape industry, but after purchasing a 50-acre property in the Adelaide Hills in a region

known for its potatoes, he was soon conducting trials for the region's growers.

"The work just snowballed from there, which is how I came to find myself working full-time on potatoes," Robin said.


Today, Robin works as a Senior Research Officer at the South Australian Research and Development Institute based at Lenswood Research Centre. He has 14 years experience in horticulture pathology specialising in research of potato pathogens, and is recognised as a State authority on their management and control.

His work involves initiating and managing disease research on potato crops and providing identification and quantification of several soil/plant borne potato diseases for the Horticulture Diagnostic Service.

These projects and services have benefited the potato industry by identifying and characterising pest and disease problems, and introducing new chemicals and improved management strategies.

Robin has also researched the effects of different crop rotation strategies and the use of Brassicas for biofumigation on a range of these pathogens. His latest projects are investigating "Management of Black dot" and "DNA Monitoring Tools For Soil-Borne Diseases of Potato". The latter is a five-year \$14.8 million research program to control potato diseases that cost more than \$82 million of production losses a year.

There are six different sub-programs within this project and Robin is working on one to develop DNA monitoring tools that can identify specific diseases as well as gauge the levels of these diseases in the soil.

"This can then help us to establish the relationship between soil populations of several pathogenic fungi and their subsequent infection on potato tubers," said Robin. 

A U S T R A L I A N P O T A T O R E S E A R C H P R O G R A M



# Federal Budget 2008

**Wayne Swan as Federal Treasurer delivered the first of the new Labour government's budgets in May. Ian James reviews its importance for the Australian economy and assesses what its impact on potato growers will be.**

A great deal of press publicity is centred on the delivery of the annual Federal Budget in May. The Federal Budget is a statement of forecasts of Federal Government revenues and expenditures for the upcoming financial year with some estimates of revenues and expenditures for outlying years. It is essentially an accounting document. So, why the emphasis on economic outcomes?

The government can use its taxation and expenditure to impact on spending decisions of companies and individuals and it can impact on economic activity by either expanding or cutting back on the resources it uses for its activities. This is called fiscal policy. There has been little active use of fiscal policy in recent years. The emphasis has been on good book keeping, running budget surpluses and paying down government debt. The task of maintaining economic growth with low unemployment and low inflation has largely been left to monetary policy (the variation of interest rates).

So why does the Budget receive such prominence? First, it provides some idea of the policy direction of government. Second, individuals and companies are keen to know how their personal finances will be affected. Third, it has an important role in impacting on the psychology of consumers and business and ultimately on economic behaviour. This is more so for an incoming government keen to establish its credentials with the electorate.

## The verdict

It has been said that if you locked economists in a room and denied them food and water until they reached agreement that they would come out dead. That having been said there was a fair degree of consensus on this budget. There were few surprises. The broad parameters were largely flagged before the delivery of the Budget. Much of the content had been pre-determined by the Government's resolve to deliver on its election promises. From a fiscal management viewpoint there was nothing very exciting about the Budget and there was little hint of a radical fiscal approach towards economic management. As expected, the Budget delivered a handsome surplus and some expenditure cuts to assist in restraining inflationary pressures. The fact that the Government could fulfil its election promises on tax cuts and expenditure commitments while still delivering a budget surplus of \$21.7 billion is indicative of how the government coffers are awash with money flowing from the resources boom. Tough decisions such as reneging on some election promises, pushing some of the tax cuts into forced saving (superannuation) and slashing middle class welfare so as to further squeeze consumer expenditure and relieve inflationary pressures, were avoided. Most economists would have applauded such action but then economists live in a surreal world. The Budget may not have bored down hard on inflation but the significant cut back in the growth of government expenditures compared to last year's budget will ensure that it does not worsen the problem. Within the bounds of political reality the Budget's fiscal policy stance was a fair job.

## Nation building

The Budget scores more highly on micro-economic priorities with transport, infrastructure, climate change, education and health receiving much-needed attention. The use of the surplus and future surpluses in three nation building funds to tackle Australia's ramshackled infrastructure is to be applauded. The government has sensibly not tried to fix the deficiencies in infrastructure at a time when resources are fully stretched but will have a reserve fund available to deliver on this at a later date when there is some easing in private sector economic activity. Rural Australia will particularly welcome the Building Australia Fund which will fund shortfalls in national transport and broadband infrastructure. Farmer organisations and rural communities concerned about the long term decline in rural infrastructure lobbied hard for this. Health services are a key concern in rural Australia so the establishment of the Health and Hospitals Fund to finance the renewal and refurbishment of hospitals and health facilities is welcomed.

On the psychological front the Budget also scored well. The incoming government needed to show that it had a firm grip on the economy in the face of international turbulence brought on by the worldwide credit crises and galloping fuel prices. While the punters may not have been over-enthused, the negatives were fairly limited. The Budget gave an overall impression of a firm hand on the economy. Consumers and businesses may change their economic behaviour but this will be more likely the result of factors outside the Budget, such as high debt levels or soaring oil prices.

## Financial assistance

There were no real surprises for specific measures aimed at rural Australia. The Budget delivered on the Government's pledge to provide \$130 million over four years to assist farmers to prepare for climate change. Potato growers will be able to apply for grants of up to \$5,500 for training or professional advice to help them prepare for climate change. Drought assistance is to be maintained and estimated to cost \$761 million next financial year and there is an additional commitment of \$14.5 million to assist farmers who still struggling financially when their exceptional circumstance declaration expires. As previously announced the FarmBis program is to be scrapped as is the Weeds Co-operative Research Centre. In its place is a \$15.3 million weeds program. Expenditure is allocated for spending part of the \$13 billion promised over the next decade



for the Water for the Future Plan. Over the next two years the Government will spend \$954 million on infrastructure in the Murray-Darling Basin. Having allocated \$50 million this year on water licence buybacks, the Budget increases this allocation to \$170 million with a further allocation of \$483 million in 2009-10.

## Regional program

The budget delivers on the Government's election promise to provide \$35 million for a regional food producers' program, \$5 million to promote Australian produce and \$5.4 million for a quarantine preparedness plan, including developing a model for on-farm biosecurity planning. On bio-security, an important issue for potato growers, the Government has allocated an extra \$4.9 million for improving the response to pest and disease incursions even before the Beale Review of Australia's bio-security arrangements is delivered. The Regional Partnerships Program which funded projects in small rural communities but became embroiled in political controversy over pork barrelling claims and the Growing Regions Program which provided funding for boom regions, have been abolished. In their place are a Better Regions Program which will fund rural towns' main streets, community and sporting centres and community transport and a Regional Development Fund. Regional airports get some assistance with security measures.

Rural Australia will also benefit from the allocation of \$3.2 billion for road and rail expenditures across Australia and the allocation of \$1.9 billion to local councils to spend on roads, the environment and health centres. There is a large commitment to skills training in the Budget, the skilled migration program will be lifted and the controversial Section 457 temporary skilled visa scheme will be reformed, all of which will have some beneficial spin off impacts on the labour shortage in agriculture.

In short, the Budget delivered what the Government promised. It erred on the side of fiscal conservatism. It could have done more to assist the fight against inflation but at enormous political cost and possible loss of consumer confidence. It makes a start on solving the skilled labour shortage and flags the Government's intention to concentrate on building infrastructure at a future date when economic circumstances allow. There were no surprises for rural Australia either good or bad. While there will always be grumbles (pensioners, solar panel rebates) this is a good first up budget. However, the proof will be in the pudding and, for rural Australia, the ability of the government to deliver on water and climate change. pa

## The Bottom Line

- No major negative decisions were made.
- Rural infrastructure was a focus, as pledged in the lead-up to the election.
- Few inflationary measures were taken.



# AUSVEG.com.au

## Log on for the latest

The most up-to-date news, information, events and issues about potatoes are just a click away for growers. Visit AUSVEG at [www.ausveg.com.au](http://www.ausveg.com.au) to find out all you need to know about potatoes, whether you are a grower, researcher or a consumer (or all three!).



### News and Events

The AUSVEG website contains relevant information for growers such as news items, upcoming events (like the 2009 Vegetable Industry Conference) as well as issues facing the industry. Media releases and the AUSVEG weekly news are also available from the website. This is an important source of information to keep you abreast of the potato industry.

### Environment

An important feature of the AUSVEG website is the section dedicated to the environment. The EnviroVeg section provides valuable information about the program and is free for all levy payers to join. This also includes information about the 'Healthy Soils' project and how to obtain a copy of the 'Ute Guide'.

### Integrated Pest Management (IPM)

AUSVEG is proud to showcase this new section of the website, devoted to IPM. There is an introduction to IPM strategies and techniques, with more extensive information available from the grower portal section of the AUSVEG website.

### Statistics

The statistics section of the website provides a range of data information for growers including in-depth spotlights on particular vegetables, economic figures on the domestic industry, a regular update on the vegetables trade and a summary of trends in the economic environment.


### Resources

Information about potato publications is also available from the AUSVEG website. Under this section you will find information about the bi-monthly magazine, *Potatoes Australia* as well as information about the annual *Potatoes Australia Review*.

### Research and Development (R&D)

The R&D section of the public portal contains useful information about the potato levy as well as an updated list of frequently asked questions. For further information about R&D, you are encouraged to join the grower portal, which is free for all levy payers. The grower portal enables you to search for specific R&D projects and download relevant information. It also contains downloadable versions of *Potato Australia* issues as well as the annual *Potatoes Australia Review*.

To register for the grower portal please visit [www.ausveg.com.au/register.cfm](http://www.ausveg.com.au/register.cfm) and complete the online form.

The AUSVEG website is a terrific way to gain more information about your industry and endeavours to provide you with a relevant and valuable resource for all potato needs. 



# Vegetable Industry Awards 08

## A night to remember

The 2008 National Vegetable Awards in Perth were a resounding success from start to finish. The glittering occasion began with a walk down memory lane for the 600 or so people in attendance. A winding red carpet (courtesy of Sam Calameri) guided guests through years of vegetablesWA photographic memorabilia in a celebration of its 60th anniversary.

Western Australia Minister for Agriculture, Kim Chance, opened the awards ceremony with a salute to the local vegetable industry. President of vegetablesWA, David Anderson, then took to the podium welcoming and thanking guests, awards sponsors and finalists, and paying tribute to the vegetablesWA's 60 years of service.

The evening continued with the announcement of the awards winners and a celebration of their respective achievements. In closing, and just before the festivities were capped off by dancing and socialising, David Anderson also called attention to the importance and value of the potato to the world.



continued over page



## Winning words

As the 2008 Australian Vegetable Industry Awards winners took to the podium to collect their prizes and receive the accolades for being the best in their field, some were emotional, but all were jubilant at their triumph.



Bayer CropScience



### Bayer Crop Science Researcher of the Year

#### Sandra McDougall

Sandra, a NSW researcher, acknowledged the help of her family and peers in research, including DPI, NSW, and in doing so underscored what dedication can entail. "Research is a collaborative process, particularly with applied research. I work with some excellent growers, consultants and researchers in each state - so it is hard to say what is "mine". Vegetables are essential to health and life. We should be proud of working in the industry. I look forward to continuing to work with the industry towards broad adoption of IPM. By IPM I mean knowing what is in your crop - yourself or via a consultant monitoring and then making an informed decision about whether the pests that are present are being controlled by "beneficials" in the system or whether some other action is needed, and if so, choosing the best option for the situation."



### Landmark Young Grower of the Year

#### Chris Millis

Victorian vegetable grower, Chris Millis acknowledged the encouragement of his father, and also said: "Let's not forget that good produce sells itself." Later, Chris added: "It is great to be recognised in our industry particularly as horticulture becomes more important in the world. This award just focuses me more on being one of the top fresh produce companies in Australia. Our industry is only beginning to kick off and

I can see such huge advances in technology such as water and environment management that it is really quite exciting."



### Landini Grower of the Year

#### Peter Schreurs

Peter Schreurs, who is also a grower from Victoria, said: "I was very surprised to win, all the other finalists were just as deserving. I greatly appreciate the industry recognising my efforts in the philosophy of sustainability. I used to grow without thinking about the future, but realised there are things like IPM programs that allow growing without killing everything. I'm also very excited about seeing the next generation of growers taking on these new initiatives."



### Brisbane Produce Market Innovative Marketing Award

#### Odeum Produce

Tim Croot, the Chairman of Odeum Produce accepted the award on behalf of the company, while Aubrey Freemantle, CEO

of Odeum had this to say about their victory: "Winning the award proved that the commodities Odeum Produce is offering has been a winner. The direction that Odeum Produce is heading is a clear and open road to success with growers from Kununurra, Geraldton, Gin Gin and Wanneroo on our board of directors also having affiliations with growers in the East."



### AUSVEG Chairman's Award

#### Peter Cochrane

Award winner Peter Cochrane is also an Executive Member of the Vegetable Growers Association of Victoria, President of the Victorian Farmers Federation Horticulture Group and a vegetable grower. Peter expressed his deep appreciation for the help of his family and peers, and for the

recognition by industry at the podium. He later added: "All farming industries need strong industry associations to represent the best interest of growers. The veg industry has been good to me and my family and I just want to give something back to the industry that is one of the reasons why I became involved in industry associations.

Our son, Phillip, is now working on the farm so any thing that I can do to make the industry viable and sustainable, helps secure his and other young people's future who are entering the industry. I would also urge other growers to become involved in the agri-political side of the business, as the rewards are many."


In addition, the occasion marked the handing over of a prestigious award for the best WA grower.



### Bill Stevens Award for Excellence

#### Sam Calameri

Sam Calameri, a potato grower from Baldivis won the award exclusive to WA vegetable growers. "I accept this award with great pleasure and I am deeply honoured at this 60th anniversary to be a recipient of the Bill Stevens Award of excellence.

I guess to be recognised in this industry with an award like this, you have to be focussed, hard working, innovative and above all you have to be passionate at what you are doing. And I think that's how I would describe the late Bill Stevens he achieved so much for this industry," said Sam, whose speech also acknowledged his peers and the WA vegetable industry. 





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## INTERNATIONAL YEAR OF THE POTATO 2008 • INTERNATIONAL YEAR



Slow Food Movement supporter and organic farming specialist, Fiona Chambers, has never subscribed to the traditional running joke that there are only four types of potatoes: red, white, brushed and washed—at least not for a long time. Since becoming involved with the Slow Food Movement in 2002, Fiona has been concerned with the importance of food production and of raising the profile of potatoes, in particular.

Slow Food, a not-for-profit, world-wide organisation was founded in 1989. It was based upon the idea of trying to offset fast food and encouraging people to take more interest and pride in what they eat and where it comes from. Furthermore, Slow Food is about food that affects the rest of the world.

According to Fiona, Slow Food is also about trying to preserve bio-diversity. "We have lost so much diversity in our food, through the industrialisation of food, through the intensification of food industries. There has been the tendency to grow one variety of potato and because of this, there is now a loss in bio-diversity," she said.

Fiona recounts travelling to Turin, Italy, in October 2004, for the first edition of *Terra Madre* (meaning "Mother Earth"), the world-wide meeting of food communities from over 130 countries. With 5000 delegates attending the committee, Fiona was the only Victorian farmer delegate to attend the biennial event, "which was very exciting to be a part of," she said.

"*Terra Madre* was a real opportunity for producers to become involved and to celebrate the diversity of what is produced, rather than it being taken for granted and going off into the market to be sold and never be seen again," she said.

Five years ago, the Slow Food Movement had a zero per cent turn over, whereas these days, it has grown by about 20 per cent, which, Fiona says, is a considerable increase for an organisation still very much in its infancy.

Fiona's involvement with Slow Food has opened up new and emerging markets for her produce — she is the co-owner of Fernleigh Farm in Bullarto, Victoria. "It is all about local foods, farmers markets, local restaurants and local people coming and buying direct from the farm," Fiona said.


Her on-going support of the Slow Food philosophy has seen her farm become well-known in the grower community and industry for its bio-diversity confirmation program. "We are trying to set up a farm business, based around a diversity of crops and going back to a traditional farming system for a range crops and vegetables."

With the International Year of the Potato, Fiona's commitment to showcasing the value of potatoes, has gained new ground. She recently organised for three local primary schools in the Bullarto area to plant and harvest some of the many different varieties of potatoes at Fernleigh farm.

Each school had its own plot and planted 17 varieties of potatoes in December last year. The schools have since revisited the property to see the growing stages of potatoes and returned in May on International Biodiversity day to dig their spuds.

The coupling of Slow Food values with International Year of the Potato celebrations created an opportunity to re-connect children to traditional food production. According to Fiona, it opens a window to encourage a more sustainable food future among a younger generation in danger of losing this vital knowledge. "There has been such disconnect, as we have fewer and fewer farmers these days, compared to when we were growing up," she said.

However, Fiona also firmly believes that it is the little things that can really make a big difference and will continue her efforts for potato awareness. "Having the schools getting their hands dirty and being involved gave us [Fernleigh Farms] a great deal of pleasure, knowing that the kids got a lot out of planting the potatoes and sharing the experience".

For more information on the Slow Food movement log on to the website [www.slowfoodcentralvictoria.org.au](http://www.slowfoodcentralvictoria.org.au). Information on the International Year of the Potato can be accessed from the AUSVEG website [www.ausveg.com](http://www.ausveg.com). 







INTERNATIONAL YEAR OF THE POTATO 2008 • INTERNATIONAL YEAR OF THE POTATO 2008 • INTERNATIONAL YEAR OF THE POTATO 2008

# Letter from the UK

By Stuart Wale,  
Head of Crop Services,  
Scottish Agricultural  
College, Aberdeen, Scotland.



## The F words

There are two prominent words on the lips of most farmers in the UK at the moment, Fertiliser and Fuel. No doubt, the same is true world-wide. The substantial rise in cost of these commodities has caused sellers and buyers to re-evaluate what they expect to earn and pay for potatoes, respectively.

With fertilisers, there was a fear that demand might outstrip supply and sales of fertiliser in the autumn hit record levels. There was a mild panic about securing fertiliser months ahead of when it was needed and some growers opted for blends that would ultimately prove not the most appropriate for their situation. Ironically, at a time when tailoring fertiliser applied to crops according to soil reserves and crop need was more crucial financially, some growers over-supplied phosphorus (P) and potassium (K) just because the blend they could obtain forced their hand. This was, perhaps, not such a problem on land they owned, as excess P or K can be seen as 'money in the bank', but on rented land it was giving it away.

At the moment, in England, Wales and Scotland, respective recommendations for fertiliser use across all crop types are being revised, and should be launched shortly. These revisions take into account the most recent trial results but also EU Directives particularly aimed at limiting nitrate and phosphate pollution. Early indications suggest that recommendations on the use of nitrogen (N) will encompass some flexibility on a whole farm basis. Maximum use on a farm for the area of potatoes grown is likely to be prescribed thereby enabling differential levels on different crops. Recommendations for phosphate use on potatoes look set to be reduced, especially where soil reserves are adequate but potash recommendations will probably change little. However, probably the biggest driver to encourage growers to apply the correct fertiliser is sustained high costs.

Looking to the future, the debate about how soil fertility, particularly of nitrogen, can be enhanced to reduce the dependence on bagged fertiliser, has begun. This is one area where conventional production can learn from organic farming. Similarly, adjusting inorganic fertiliser applications to account for manure and slurry has been encouraged for many years, yet the value of



Front mounted liquid fertiliser tank for placement after planting. There is a small advantage to placement over broadcasting



Close up of liquid fertiliser injecting equipment

the organic applications are mostly judged from tables of average nutrient benefit. It is far better to analyse the manure or slurry and know more precisely the nutrient value of what is applied. Of course, this assumes that application can be relatively even!

As with the rest of the world, fuel costs have rocketed and financial spreadsheets need to be revised almost daily to understand how the costs of production are changing. Increasingly, growers are questioning every pass of machinery through the crop. For example, irrigation is largely applied using rain guns in the UK and the cost of moving pipe work and running irrigators has increased to the point where growers want to move the equipment less but apply more water during a single irrigation event. This brings certain risks, for example, a greater chance of powdery scab – especially if natural rain falls unexpectedly after irrigation.

## Just how much extra is needed to cover the rise in production costs?

Anyone involved in benchmarking potato production will know that variable and fixed costs vary substantially across growers, and how difficult it is to separate costs out from other farm activities. SAC agronomists, like many independent agronomists in the UK and many growers, have been busy over the winter period looking at how costs of production have changed as a result of prices increases. The pie chart (see Figure 1) provides a breakdown of average costs for a seed grower. It is possible to reduce fixed costs by delaying replacement of equipment, etc. but across a wide range of seed and ware growers, it is clear that costs have risen between 6 and 10 per cent. Therefore, to sustain profitability, there is a need to secure equivalent price rises from the market place. Buyers of potatoes, such as fresh market packers and processors, have been equally active trying to see if they can secure higher prices to pay for increased grower costs. No doubt, like the UK, retail prices have risen everywhere in the world. Whether price rises will feed back to growers to pay for the extra costs of production remain to be seen. What is interesting though, is that there appears to be an acceptance by consumers now that price rises will occur.

Figure 1

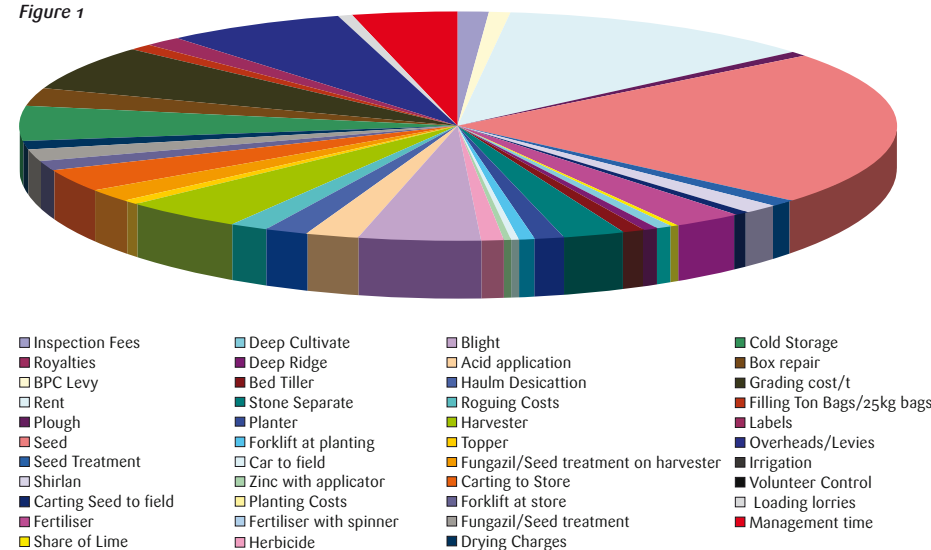


Figure 1 shows the average costs of production for a seed potato crop. Data is taken from a benchmarking exercise of farmers growing the same variety. The two greatest costs are land rental and seed. However, fuel costs have risen from 33p a litre in 2005 to over 55p a litre in 2008.

## Prospects for 2008 production

It is just over two months since the main potato planting season got underway (early fresh market crops were planted from February but only represent a small part of the market), but it is still too early to be sure whether the area planted has fallen. There is no doubt that the cereal acreage has risen with farmers cashing

in on prices of around £180/tonne but whether this is at the expense of potatoes, another crop or perhaps grass is still unclear.

The late March/early April weather was favourable for an early start to the main planting but this early start was halted by cold, wet and snowy weather in mid-late April. Those with large acreages to plant began to get a little anxious but May turned dry and planting resumed with an almost uninhibited run until completion. Substantial rainfall in the south of Britain at the end of May set them up for a good crop free of common scab.

The future price that potatoes reach in the UK depends on total yields across Europe to some extent. Whilst Eastern Europe is currently very dry, it is also too early to speculate on final yields. Here also the substantial cereal price may have influenced how many acres have been planted.

## Government research suggests changing emphasis in control of potato virus diseases

The north of Britain produces the majority of seed in the UK. If there is one boast it can proudly proclaim it is that it has the highest health where virus diseases are concerned. However, in the last few years there has been an unexpected increase in virus

A, and to some extent virus V. Virus A is aphid-transmitted but the last two seasons have seen low levels of *Myzus persicae*, the main virus vector in Scotland, or other acknowledged virus vectors. The other feature of Virus A is that it causes a mild mosaic which can be very difficult to see and rogue out.

The Scottish Agricultural Science Agency, who administers the certification scheme, has been measuring virus development by putting greenhouse-grown potato plants into the field every few days and testing for infection to identify when and which viruses were infecting potatoes. Imagine their surprise when Virus A turned up when no recognised aphid vectors were being trapped. It would seem that some non-

potato colonising aphids – probably cereal aphids – were landing on the test plants, infecting with virus and flying off again. This was happening early in the growing season, long before many growers would be applying insecticides. The result of these findings is that seed growers of varieties susceptible to virus A are being encouraged to start aphicide programmes almost as soon as crops emerge and continuing with a programme of different aphicides throughout the season. This will mean added costs for these crops - which won't be welcomed.

*continued over page*





**INTERNATIONAL YEAR OF THE POTATO 2008 • INTERNATIONAL YEAR OF THE POTATO 2008 • INTERNATIONAL YEAR OF THE POTATO 2008**

**Varieties grown in Great Britain in 2007**

Provisional estimates made on 31 August 2007 for seed and ware crops - hectares

	England	Wales	Scotland	GB total	Main market outlet
<b>First early</b>					
Premiere	118	1850	221	2,189	Fresh
Maris Bard	1,420	9	131	1,560	Fresh
Accord	871	51	28	950	Fresh
Winston	143	32	146	320	Fresh
Rocket	132	16	93	241	Fresh
Dundrod	222	-	22	244	Fresh
Total 1st early	5,412	318	914	6,644	
<b>Second early</b>					
Estima	13,260	483	2,266	16,009	Fresh
Maris Peer	4,452	127	1,474	6,052	Fresh
Marfona	4,138	92	685	4,914	Fresh
Saxon	1,338	-	2,968	4,306	Fresh
Nadine	2,355	42	636	3,033	Fresh
Wilja	1,217	26	339	1,582	Fresh
Charlotte	1,152	19	610	1,782	Fresh
Rooster	146	-	1,150	1,295	Fresh
Victoria	1,159	23	46	2,208	Fresh
Lady Claire	519	-	62	581	Fresh
Nicola	223	-	235	458	Fresh
Fambo	400	2	11	413	Fresh
Carlingford	192	16	73	281	Fresh
Total 2nd early	31,296	829	10,789	42,914	
<b>Maincrop</b>					
Maris Piper	20,811	163	4,852	25,827	Fresh and French fries
Lady Rosetta	5,712	11	307	6,031	Processing - Crisps
Saturna	4,605	6	352	4,963	Processing - Crisps
Pentland Dell	4,292	-	372	4,664	Processing - French fries
King Edward	2,869	20	1,033	3,922	Fresh
Hermes	3,172	3	789	3,965	Processing - Crisps
Desiree	2,311	26	1,337	3,674	Fresh
Markies	2,856	6	174	3,035	Fresh
Harmony	1,710	18	731	2,459	Fresh
Russet Burbank	1,902	-	226	2,128	Processing - French fries
Sante	1,303	4	220	1,527	Fresh
Osprey	3	-	1,449	1,452	Fresh
Cultra	135	-	1,183	1,317	Fresh
Shepody	928	-	133	1,061	Processing - French fries
Cabaret	702	3	398	1,104	Processing - French fries
Romano	865	18	228	1,112	Fresh
Vivaldi	797	-	139	935	Fresh
Morene	900	-	39	939	Fresh
Melody	733	12	9	754	Fresh
Cara	420	4	303	727	Fresh
Total maincrop	63,689	443	17,068	81,200	
<b>Total (all varieties)</b>	<b>100,397</b>	<b>1,590</b>	<b>28,770</b>	<b>130,758</b>	

Source: Potato Council Ltd. Not shown are 23 1st early varieties, 28 second early varieties and 103 main crop varieties.

**Top of the variety pops**

The list of varieties grown in Great Britain (that is excluding Northern Ireland) is substantial. The table on the left shows the area (hectares) of each variety in the three constituent countries.

There are four key things to notice:

First, the dominant variety is Maris Piper at nearly 26,000 hectares grown. This variety has ruled supreme for many years, having the dual outlets of fresh market and French fries. It is the main variety fried in chip shops in GB.

Second, of the 193 varieties grown, the majority are for the fresh market. This demonstrates the diversity of potatoes sold through retail outlets, mainly supermarkets. Each supermarket tries to have a unique range of varieties, although varieties like Maris Piper, Estima and King Edward tend to be common to all.

Third, the range of varieties for processing is much more limited, with just three dominating crisp production, Lady Rosetta, Hermes and Saturna. For other processing, such as frozen French fries, Pentland Dell, Russett Burbank and Shepody are the main contenders, although Maris Piper and newcomers like Cabaret also feature.

Finally, there are perhaps only two or three on the GB list that feature in Australia, notably Nadine, which has declined in acreage, and Desiree.

**Prevention is much better than cure**

Australia is rightly concerned about importing non-indigenous and quarantine diseases and pests. The evidence in frequent

financial evaluations is that prevention is a lot cheaper than trying to eradicate once established. The UK (and indeed Europe) is just as keen to prevent quarantine organisms either entering EU countries or moving between them. An England & Wales study of eradicating three outbreaks of ring rot (*Clavibacter michiganensis sepe-donicus*), which is not present in the UK, has shown that the cost of tracing and eliminating infected stocks far outweighed by about 30:1 the penalties from it becoming established.

Poland is a country where ring rot has been a persistent problem. As a member of the EU they have made major strides in reducing the problem - to the point where visual crop or tuber symptoms are extremely rare. However, like every other EU country, Poland has to routinely test seed and ware stocks for contamination. Ring rot persistently shows up in these tests. This is often to the frustration of a farmer whose stock is confirmed as contaminated, and because there are no symptoms the disease is now considered a political one.

Australia has been tackling an unwanted outbreak of Potato Cyst Nematode (PCN) which understandably it wants to prevent spreading. At the other end of the spectrum and by complete contrast, it is widespread in the EU despite it being a quarantine disease. Ware growers have learned to live with it but at a considerable cost - financially and to the environment - because of the extensive use of nematicides. That exemplifies how costly control is once a quarantine organism is established.

Although an EU Directive on PCN has existed from 1969, a new Directive is set to tackle PCN with more vigour and attempt to lessen its hold on potato production. It recognises the changed situation for PCN, not least that two *Globodera spp.* are now involved.

Under this new piece of legislation, testing of soil samples from fields destined for seed and ware is set to increase substantially.

Currently, in the UK PCN soil tests are carried out on 4ha parcels of land. Land for seed production must be confirmed free of PCN. After 2010, every 1 ha block of land destined for seed will be tested using larger soil samples (1500g) than are currently taken (400g), although derogations on the sampling procedure will exist in some circumstances.

In addition, a proportion of land (0.05%) for ware production will be tested and if PCN is found, the

grower will have to take action to limit PCN multiplication, either by growing a resistant variety or use of nematicide or avoiding the field altogether. Thus the new legislation allows ware potatoes to be grown on infested land providing the land is subject to an official control programme targeted at the suppression of PCN.

It will be gathered that EU legislation plays a big part in how member nations grow potatoes!



Potatoes in Practice - the UK's premier outdoor potato event

**Visiting the UK this summer? Don't miss Potatoes in Practice or the Improving International Potato Production conference**

Potatoes in Practice organised by Scottish Agricultural College (SAC) and Scottish Crop Research Institute (SCRI) and with major sponsor Potato Council Ltd (formerly BPC) has become the premier outdoor potato event in the UK. This year it is being held on 7 August at SCRI's farm, Gourdie at Dundee, Scotland. This has become a major focus for international visitors in the last few years (including Australians) and in 2008 we know already of groups coming from Australia, China and Latvia. Seminars, field trials and demonstrations with guided tours, marquee exhibits and machinery—what else would you want to do on holiday?

The following day, 8 August, SCRI will celebrate the year of the potato in Dundee with major global speakers including Dr Pamela Anderson of CIP. The conference is entitled Improving International Potato Production.

More details of both events can be found on SCRI's website [www.scri.ac.uk/events/forthcomingevents/pip2008](http://www.scri.ac.uk/events/forthcomingevents/pip2008) [www.scri.ac.uk/news/yearofthepotato](http://www.scri.ac.uk/news/yearofthepotato)







# Soil carbon

INTERNATIONAL YEAR OF THE POTATO 2008 • INTERNATIONAL YEAR

## Inspirational art

When Gippsland artist and writer, John Mutsaers set out to create five potato sculptures in November last year, he had no idea his contribution to the International Year of the Potato would yield the world's largest sculptural installation.



John wanted to dedicate his talent and energy to promoting the food crop and its valuable contribution to society through the pieces. The sculptures took six months to create and are made from 20 million-year old volcanic rock from Thorpdale, with each potato bearing a red metal fork at its centre. While the potato symbolised the toil of producers, the forks stood for the sharing of the produce. The works, commissioned by the Trafalgar Spud Shed, were first unveiled in Federation Square in Melbourne in May by Victoria's Minister for Agriculture, Joe Helper. They dominated some of the outdoor squares and exhibition areas until earlier this month.

Now that their display stint in Federation Square is complete, the sculptures are set to become permanent markers at Trafalgar with Joe Helper launching their arrival in the Gippsland community in mid-June. John Mutsaers said that while they were on display at Federation Square, they captured the philosophy of the United Nation's aims for the International Year of the Potato of being a global food. Their display in Gippsland emphasised representation of the potato-growing communities in and around the Thorpdale area.

John is passionate about finding ways to help those worse off than us and undertaking the project also reminded him of the level of need in other nations, saying that many people have no alternative but to use rock and stone as part of their daily meal, or to make it go further. "There is an urgency in that for us all," John said. "We are able to choose our meals whereas for many others in the developing world, daily choices surround life and death."

The artist anticipates that more pieces will be created for the Victorian potato-growing corridors of Warragul, Thorpdale, Mirboo North, Narracan, Erica and Neerim South, effectively making the works, the world's largest artistic ensemble. [pa](#)

## Soil organic matter underpins sustainable farming and profitability. Professor Peter Grace, Queensland University of Technology, looks at the whys and hows.

Next time you look across your farm, take time to think that for every hectare, there are about 10,000 tonnes of soil in the top metre. This soil is the backbone, or skeleton, that supports your farming system! Soil organic matter should then be viewed as the blood stream of your farming system. It supplies the nutrients from the soil that ensure crops, pastures and trees can grow. Soil organic matter is concentrated in the topsoils as that is where plants have been growing and depositing organic material, whether it be crop residues or dead roots.

The main element in soil organic matter is carbon, and depending on the soil texture and farming history, there is anywhere from 5 to 30 tonnes of carbon in the topsoil. Some of this carbon is returned to the atmosphere as carbon dioxide due to decomposition by microorganisms - bacteria and fungi, the real workers - but the majority is quite stable and will not change much if undisturbed. Cultivation causes a loss in soil carbon as the soils become exposed to the atmosphere and the microorganisms are provided with food.

Soil carbon is therefore the essential energy source for the microorganisms, which produce the nutrients for plant growth, as well as being a major contributor to soil structure. But carbon is also a collection of different carbon compounds, sugars, celluloses and lignins, which all decompose at different rates. This is dependent on how much water the microorganisms have available, and the temperature. If you live in the tropics, there is plenty of moisture and heat, hence organic matter decomposes quickly. However, not all of it ends up in the soil, as microorganisms respire carbon dioxide, just as humans. In cooler,

drier climates, organic matter decomposes slower. The soil is therefore a very dynamic system in terms of soil carbon.

Soil carbon also acts as a conduit, or glue that binds soil particles together. Without soil carbon, your soil structure may be very dense and not allow water into the soil profile. There also tends to be more carbon in clay soils, compared to sandy soil. The small particle size of clays means in one gram of soil, there is much more surface area than in sands. The greater the surface area, the more chances you have of accumulating the decomposition products from microorganisms as it binds to the soil particles.

Sustainable farming systems need soil carbon, it is the essential element and ingredient for success and profitability. If your soil is a bank, soil carbon is the long term investment strategy that keeps it going. Without soil carbon and its associate nutrients (N, P, K, etc) you need to add more external nutrients, which can be expensive. By increasing soil carbon and its associated nutrients you have the basics of sustainable farming in hand and you can reduce your reliance on these external inputs.

Soil carbon changes in response to management, but it changes very slowly. These changes can also be small, but will accumulate in time provided they are managed correctly. Cultivation can accelerate the loss of soil carbon to the atmosphere, so minimum tillage is a must. Also, if you don't feed the soil the carbon it needs, the soil carbon pool will not grow, therefore you need to return crop residues to soil, or engage in rotations which produce significant amounts of biomass (e.g. legume manure crops). Soil carbon is what pays your bills in the end. [pa](#)



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If you have a question that you'd like addressed, please ring the advice line on 1800 067 108 or email *Potatoes Australia*: [jenan.taylor@ausveg.com.au](mailto:jenan.taylor@ausveg.com.au) Please note that some questions may be published.

# Ask the industry

**Ask the Industry, is a new, regular advice column covering questions you might have about issues from resistance management, and chemistry to occupational health and safety. Your concerns will be looked at by Phil Hault, Syngenta Technical Services Lead, and Sean Richardson, Portfolio Manager – Potatoes and Vegetables, Syngenta Crop Protection.**

## Why has the cost of agricultural inputs increased?

With the spring sowing season fast approaching, many Australian potato growers are justifiably concerned about the rising price and tight supply of knockdown herbicides, such as glyphosate, paraquat and diquat (Spray.Seed).

Soaring global demand for both food and fuel, coupled with minimal world stocks and record commodity prices, has created an increase in agricultural production in recent months. This has created unprecedented demand for all agricultural inputs, particularly, herbicides, fertilisers and fuel.

At the same time, agricultural suppliers face a number of unique supply constraints. Many crop protection companies are unable to source sufficient raw ingredients or manufacture enough product to meet this demand.


Given that most of these products are imported, and that Australia accounts for only a small percentage of global consumption, Australian growers are currently at the mercy of the massive gap between supply and demand.

## Will this have any impact on potato growers?

Australian farmers are already familiar with supply-demand issues concerning glyphosate and fertiliser. Unfortunately, this problem is likely to spill over to other sectors in the coming months.

Many of the active ingredients used in potato fungicides e.g. chlorothalonil and azoxystrobin, (Amistar) are also used in cereal crops in the northern hemisphere. Given the existing shortages of stock and lag times in the supply cycle, many key fungicides are likely to be in short supply this season. It is worth noting that all crop protection companies are facing exactly the same problems.

Many growers are already familiar with the delays associated with ordering tractor and truck parts that have to come from interstate or even overseas. Although the parts turn up in a week or so, the down time is costly and annoying.

In a disease outbreak situation, a week might be too late. My advice is that all growers should start planning their requirements, talk to their suppliers and order whatever products they need as soon as possible to ensure continuity of supply at the critical times. 



Sean Richardson



## Report card by Suzanne Loing

**Since March 2006, the Australian Vegetable Industry Development Group (AVIDG) has been advising the Department of Agriculture, Fisheries and Forestry (DAFF) on the investment of \$3 million in Commonwealth funds to implement the seven foundation projects identified in the *Vegetable Industry Taking Stock & Setting Direction* report.**


The AVIDG was also responsible for ensuring that arrangements are in place for the implementation of the industry's own strategic plan, *VegVision 2020* and its continuation beyond the life of the Group.

The foundation projects have all been completed and the AVIDG will cease to operate on 30 June 2008. Therefore, on 1 July, the AVIDG will host a 'Report to Industry' in Sydney, which will:

- Demonstrate what has been achieved through the Foundation Projects;
- Highlight that there is still much work to be done by the industry itself;
- Recognise the contributions made by a large number of industry participants; and
- Pass on the responsibility for the ongoing management and implementation of the outcomes from the Foundation Projects to appropriate individuals, groups and organisations.

Projects to be discussed at the event include: the global comparative analysis study that outlines the current and future challenges of competing in the global market place; a value chain analysis initiative that identifies opportunities for value chain innovation in the processed vegetable sector; and the vegetable industry domestic marketing strategy aimed at complementing and leveraging existing marketing and communications activities undertaken by commercial, government and non government organisations to increase the value of Australian grown vegetables.

A final report, outlining all of the AVIDG's work will be available at the Report to Industry on 1 July as well as on the AVIDG website by visiting [www.avidgroup.net.au](http://www.avidgroup.net.au)

The July edition of *Vegetables Australia* will also detail the work of the Group, including how the AVIDG came about, project outcomes and identify areas where the industry can take up the challenge to increase competitiveness and sustainability. 





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## Seed crusades

**Prior to the certified seed scheme, the potato industry lost several popular varieties to the effects of virus diseases. Keith Blackmore, Manager of ViCSPA, chronicles the development of Victoria's 70-year old certified seed program established to halt the "run out" or "degeneration" of potato types.**

### A new hope

The average yield of crops in Victoria in the 40 years to 1895 was 3.6 tonnes per acre, however this had declined to 2.54 tonnes per acre by 1935. This degeneration prompted the Department of Agriculture to start the seed potato scheme in 1938 and within two decades, there was significant improvement to the yield and consistency of seed crops. Virus levels decreased due to the selection program in which top certified seed growers used "stud" plots where selected plants were multiplied over several years.

### The Pathogen Tested (PT) Approach

In the 1960s new technology enabled scientists to free potato varieties of virus diseases. The few growers whose lines had been freed of virus, saw significant improvement in their crops. It prompted questions as to how all growers could benefit from this progress.

David Harrison, an eminent pathologist for Victoria's Department of Agriculture, was sent overseas on fact finding missions in 1968 and 1972. His reports re-shaped certified seed schemes in Australia, thereafter.



A committee of leading seed growers and departmental specialists bravely introduced the significant new technology to the certified seed scheme. Growers found that they had to let go of old favourites and lines of family varieties and use the new PT lines of seed.

A system was devised whereby a nucleus of fully tested varieties was developed. These plants were tested to be free of all known viruses, fungal and bacterial diseases. Rooted cuttings from these plants were initially multiplied at the Potato Research Station, Toolangi, then forwarded to Foundation seed growers in the Otways and Thorpdale. The result was the G4 Foundation scheme, which was hailed the world leader in its approach to certified seed potato production.

Since its introduction, the development of the G4 Foundation system has been on-going. Foundation seed growers were appointed to each district and the introduction of tissue culture in the early 1980s revolutionised the production of the "GO" or laboratory-produced stock. These days, most seed growers buy their own ViCSPA certified minitubers and grow their own early generation seed potatoes.

### One Million Reasons for Success

Eight ViCSPA-accredited facilities currently produce more than one million minitubers for the ViCSPA-run certified seed potato schemes in Victoria and South Australia, and for programs in Tasmania, WA and NSW.

These minitubers are the foundation of Australia's potato industry.




### Advantages of a Pathogen tested seed scheme

- Disease tested variety collection
- Rapid multiplication of minitubers in controlled conditions
- Limited number of generations in the field - limits the opportunity for degeneration with disease
- Each year there is a flush through of new, clean stock
- New varieties can be rapidly multiplied

### Potato Conference at Marysville in July, 2008

Each year 2,000 hectares of crops are grown for certification under the ViCSPA banner and about 33,000 tonnes of potatoes certified. Over the last 15 years about 500,000 tonnes of certified seed potatoes have been supplied to potato growers in South Australia, Queensland, NSW and Victoria with increasing quantities being exported.

With those successes, the Victorian seed industry is celebrating 70 years of certified seed potato production at its biennial Potato Conference in Marysville, Victoria from July 20 to 22. **All growers** are invited to attend. The convention promises to be informative and dynamic and will also feature a conference dinner and a prominent guest speaker. For more details, visit [www.spv.org.au](http://www.spv.org.au) or phone 0409 510 089. 



Images clockwise from top left: ViCSPA loading spuds at Thorpdale, 1953, ViCSPA inspecting potatoes, 1955, ViCSPA's first self-propelled harvester, 1958, ViCSPA inspecting cuttings, 1970, and ViCSPA Thorpdale harvester

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# The POTATOPLAN principle



Glass house researchers

Potato berries containing the true seed of new USDA varieties in the glass house in Aberdeen, Idaho, USA



## Potato growers may soon be able to benefit from an 'industrial strength' software program designed to deliver increased profitability and productivity - but only if Australian breeders hop on board, reports Gretel Sneath.

It may be difficult to believe, but the most popular potato for making French Fries is the same variety which has been dished up since 1914. The market says nothing beats the mighty Russet Burbank, with its strong yields and blocky shape, but theoretically, this shouldn't be the case.

Why? Because with advances in research and technology, surely there's now something better on the market. Or perhaps not.

Mount Gambier-based Geneticist Dr Tony McRae said the fact that there isn't a variety which has superseded the Russet Burbank is cause for alarm.

"It tells me that either it's difficult to breed new varieties, or that the breeding programs have been ineffective and industry is reluctant to take on new varieties," he said.

A big call, perhaps, for someone who's relatively new to the potato industry. But Dr McRae has the pedigree to back it up - and quite possibly the solution.

Tony McRae is one of the pioneers of a revolutionary, web-based data management and analysis software package computer program developed by the Southern Tree Breeding Association and its research partners. The program helps identify the best genotypes in a breeding population of hundreds of thousands of varieties by using all pedigree and performance data. The outcome: a few varieties with increased productivity, quality and ultimately profitability.

Similar technology has been applied to livestock, lambs, pigs, and forestry plantations with enormous success. Since its introduction in 2001, TREEPLAN has more than doubled the rate of genetic gain in the Australian national breeding programs for radiata pine and blue gum. The result prompted the North American potato industry to approach the TREEPLAN developers in the hope of achieving similar success with tubers, and Dr McRae and his colleagues met with their breeders in April.

"Canada's efficiency in processing their data up until this point has been sub-optimal and it was no different in forestry until we developed TREEPLAN. By going in and using their data in POTATOPLAN, we think we can greatly improve the efficiency

of these breeding programs in terms of making better selections and how quickly they can release new varieties to industry," said Dr McRae.

"The principle for POTATOPLAN is much the same—it's about population improvement by collecting a lot of information on many thousands of varieties for a number of traits or characteristics which are commercially important."

It may seem like a dramatic move switching from trees to potatoes, but according to the software developers, the hard work's already done.

"The key algorithms already exist; we have to make some modifications to those algorithms to take in the peculiarities of potatoes, but to us, it's just data; it's interpreting the data that's important."

A Federal grant of \$240,000 has been matched dollar for dollar by PlantPlan Genetics Pty Ltd in a bid to modify the TREEPLAN software to handle the peculiarities of potatoes and the data associated with the potato breeding program.

"The research project is funding the software modification and proof of concept studies, and ideally, we would like to do pilot studies with the Australian breeding and national testing program run by Primary Industries Victoria," said Dr McRae.

There have been some encouraging discussions, but so far, the Australian industry appears reluctant to help develop the

technology. As a result, Canadian and USDA datasets are now being used to develop the new POTATOPLAN software. "It creates a good opportunity for us because these people can see what the issues are and want to work with us. They have provided the data for us to use, they are co-operative and they see the benefit of this," said Dr McRae.

"There's plenty of experimental varieties and good genetic variation in the breeding populations, but the Canadian and US breeders simply can't summarise it because they don't have the analytical tools to do that. They're trying to improve too many traits at once with no way of integrating the information, and there's just too much noise in the system...POTATOPLAN would handle the integration and remove some of that noise."

All going to plan, POTATOPLAN will be online by March 2009.

"This tool will help North American producers better link in with larger and more successful breeding programs; by getting on the web, they can learn about new varieties with commercial potential, along with their growing, disease-resistance and processing characteristics."

Lucky them. Now all that is needed is for Australia to get in there as well.

"Ideally, what we want is to get people to work with us; we want to help set them up and give them access to these crucial tools," said Dr McRae. **Pa**

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# Reducing the impact of Black dot on fresh market potatoes

**For years, Black dot was low on the list of priorities for potato growers, as many believed they had bigger issues to handle. But in an industry which is becoming increasingly focused on appearance, the fungal disease which causes yield reductions of up to 30 per cent is raising concerns—and calls for more research. Gretel Sneath follows the course of one study.**

South Australian Research and Development Institute (SARDI) Senior Research Scientist, Robin Harding and Research Officer, Amanda Benger have responded to those calls by unearthing a number of new characteristics of Black dot.

“All cultivars are susceptible in varying degrees, and most cases of Black dot develop from soil or tuber inoculum and, to a much lesser extent, air-borne inoculum,” Robin explains. “The big concern is that it can survive in the soil for up to eight years, and infected seed is the primary means of introducing the disease into new regions.”

Whilst infection of below-ground parts of potato plants occurs some 6 – 8 weeks after planting, visual symptoms aren't evident until the plants enter the tuber bulking stage and foliage starts to die off. By the end of the season sclerotia (see pic) are visible on roots, tubers and stems.

Laboratory studies have revealed that the fungus is most active in soil temperatures of 24 degrees, while overhead irrigation applied to infected haulms just prior to harvest has been found to increase the incidence and severity of tuber infection.

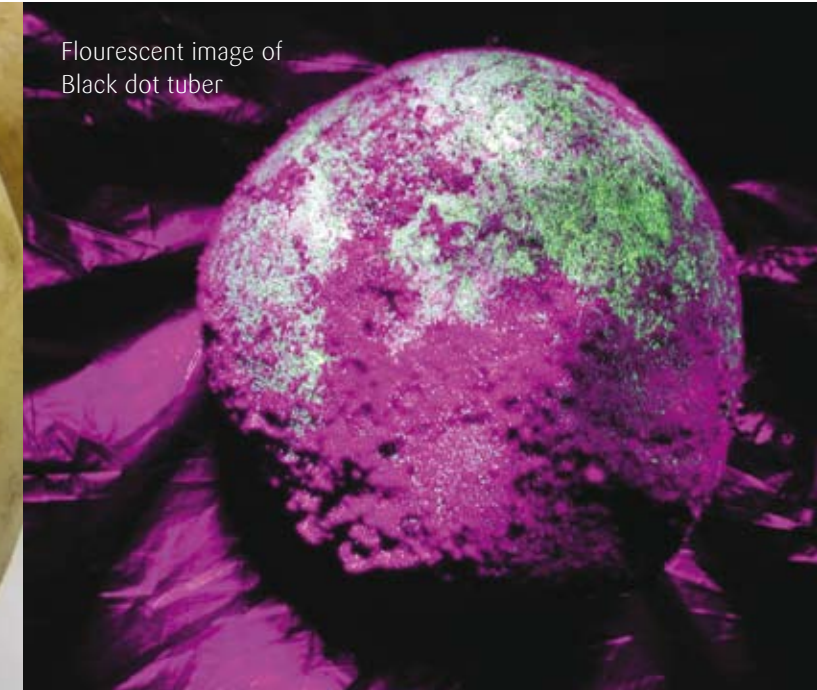
To date, no chemicals are registered in Australia to control Black dot, however SARDI's research has identified several products that are currently undergoing the registration process.

“We've found that a seed treatment of Maxim® is effective at reducing the impact of this disease but only where soil levels of the fungus were low. Where soil levels were high, in-furrow treatments of Amistar® or Cabrio® by spraying onto the soil in

Black dot on tuber close up



Flourescent image of Black dot tuber



front and behind the seed tuber to create an envelope of treated soil, reduced the impact of the disease,” said Robin.

Fumigation has also been touted as a possible means of control, but preliminary trials both here and overseas with Metham or Telone II have produced mixed results. Instances of poor control have generally been attributed to poor soil preparation prior to fumigation. There is also the catch; that if infected seed is planted under these conditions, disease incidence and severity can be higher than where no soil treatment was applied.

Recent funding from the SA Potato Industry and the Commonwealth Government through Horticulture Australia Ltd is enabling research to continue on the evaluation of timing and placement of various treatments. It is also helping in the validation of a new and more efficient molecular-based test to detect Black dot in soil and in plant tissue.

“To date, the results have been encouraging. They have shown that when using clean seed there is a strong positive relationship between the incidence and severity of Black dot on daughter tubers and concentration of Black dot in the soil. Results also showed that once the soil-borne concentration of Black dot reached a certain point, disease severity on daughter tubers remains constant,” he says.

Results also showed that, in some cases, Black dot levels in the soil could increase by up to 300-fold after harvest. Research in SA and overseas has revealed that relatively small amounts of soil inoculum can cause higher disease incidence and severity on daughter tubers than tuber-borne inoculum.

Preliminary research by SARDI in collaboration with Israel has shown that at least four different groups of Black dot are present within the different potato-growing regions in Australia. Further studies are planned to determine if more groups exist, and if there are differences in aggressiveness or sensitivity to chemicals between these groups.

“The importance of knowing about the different groups is that disease management strategies will be affected if the groups vary in aggressiveness or chemical sensitivity. It may also assist in breeding resistant potato lines,” Robin explains.

While some of the strategies mentioned are already improving profitability, Robin says further research needs to be undertaken on developing the predictive test of Black dot disease potential in land proposed for potato production and to determine the impact of husbandry and other factors on the incidence of this disease.

“We also need to define more precisely the maximum levels of disease on seed, which will not only enable growers to make decisions on where to plant different seed lines, but will ensure that growers have a diversity of control methods and don't rely solely on chemical methods that could give rise to fungicide-resistant strains,” he says.

“Black dot is a difficult disease to control and there is no one silver bullet to knock it out. Control methods need to be varied depending on the disease status of the seed or the soil into which they are to be planted, but an integrated approach to management strategies will help minimise the problem and will provide a significant step towards more sustainable potato production systems.”

PT06014

## The Bottom Line

- Poor soil preparation prior to fumigation has an impact on control.
- Australia has at least four different types of Black dot disease.
- Further research is needed to determine the potential direction of the disease.

Further information can be found at [www.ausveg.com.au/levy-payers/login.cfm](http://www.ausveg.com.au/levy-payers/login.cfm)





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



## FEATURE - APHIDS AND VIRUSES

It is well known that aphids are involved in the transmission of some viruses into potato crops. This feature article summarises some recent research looking at aphid control, spread of virus in potato crops and two new viruses that infect potatoes.

The research described in the first paper (van Toor et al.) investigated insecticide resistance in 72 green peach aphid (*Myzus persicae*; primary vector of potato leafroll virus (PLRV)) lineages collected from Pukekohe, Canterbury and the West Coast of New Zealand. Using molecular techniques, biochemical tests and dose bioassays, the study found that the lineages could be grouped into 23 genotypes. Of these, 60% contained one or more mechanisms that enable resistance to particular insecticides. The study also found traits that may enable decreased biological fitness in some lineages. Pest management methods to exploit these traits and minimise the development of insecticide resistance are discussed.

The second paper (Alvarez et al.) studied the resistance of potato cultivar Kardal to green peach aphid. Young leaves appeared to be resistant regardless of PLRV infection, but mature leaves were more attractive to aphids when the plant was infected with PLRV. The probing and feeding behaviour of the aphids seemed to be affected by PLRV infection.

The transmission of Potato virus S (PVS) and Potato virus X (PVX) within potato seed crops (Russet Burbank) during the growing season was studied in four commercial fields in Tasmania (Lambert et al.). The results suggested that there was limited spread of either of the two viruses.

The fourth paper (Kirk et al.) describes how a new potato disease, corky ringspot, is caused by tobacco rattle virus (TRV). Sap from infected potato tubers could infect tobacco plants and cause typical symptoms. TRV is transmitted by stubby root nematodes. The disease has now been found on potatoes in California, Colorado, Florida, Idaho, Washington, Oregon and Michigan in the USA.

Yet another virus has been found on potato (Souza-Dias et al.). Discovered in Sao Paulo, Brazil, on cultivar Agata, tomato severe rugose virus (ToSRV) causes leaf deformation and mosaic symptoms.

**Insecticide resistance and genetic composition of *Myzus persicae* (Hemiptera : Aphididae) on field potatoes in New Zealand.** van Toor et al. (2008) *Crop Protection* 27: 236-247.

**Infection of potato plants with potato leafroll virus changes attraction and feeding behaviour of *Myzus persicae*.** Alvarez et al. (2007) *Entomologia Experimentalis et Applicata* 125: 135-144.

**Spatiotemporal spread of Potato virus S and Potato virus X in seed potato in Tasmania, Australia.** Lambert et al. (2007) *Plant Health Progress*: 1-5.

**First report of corky ringspot caused by Tobacco rattle virus on potatoes (*Solanum tuberosum*) in Michigan.** Kirk et al. (2008) *Plant Disease* 92: 485.

**Tomato severe rugose virus: another begomovirus causing leaf deformation and mosaic symptoms on potato in Brazil.** Souza-Dias et al. (2008) *Plant Disease* 92: 487-488.

## Research summaries

### POWDERY SCAB

Powdery scab is caused by the pathogen *Spongospora subterranea*. The three papers described below investigate relationships between soil contamination and disease incidence and severity, as well as looking for potentially resistant cultivars.

**Factors affecting the incidence and severity of *Spongospora subterranea* infection and galling in potato roots.** Potato plants cultivar Estima were grown in controlled environmental conditions with different levels of artificially added inoculum. Root galling was severe at 17°C but did not occur at 9°C. The level of soil inoculum did not affect the incidence and severity of visual root symptoms, but the incidence of infection tended to be greater at high levels of inoculum. There was no correlation between the occurrence of galls on roots and powdery scab on tubers. van de Graaf et al. (2007) *Plant Pathology* 56: 1005-1013.

***Spongospora subterranea* soil contamination and its relationship to severity of powdery scab on potatoes.** This study was carried out on 29 potato fields in Hokkaido, Japan. Direct measurement of spore ball density in soil was not strongly related to powdery scab disease severity at harvest. By contrast, the infection potential of each soil was positively correlated with disease severity. This method will be useful for determining the disease potential of a soil. Nakayama et al. (2007) *Journal of General Plant Pathology* 73: 229-234.

**Susceptibility of potato cultivars to *Spongospora subterranea* under field conditions.** Six potato varieties (Sante, Diamant, Cardinal, Desiree, Faisalabad White and Faisalabad Red) were screened for resistance to powdery scab in a naturally infested field at Sharan in the Kaghan valley, Pakistan. The lowest incidence and a low severity of disease was found on Desiree. Differences in tuber weight and numbers between cultivars were seen but were not correlated with disease incidence and severity. Iftikhar et al. (2007) *Pakistan Journal of Botany* 39: 1329-1333.

### RHIZOCTONIA

The pathogen *Rhizoctonia solani* is associated with black scurf and stem canker diseases in potatoes. Three papers looked at the variability of *Rhizoctonia* isolates in Finland and New Zealand and examine the effectiveness of a biocontrol agent in pot trials.

**Biological diversity of *Rhizoctonia solani* (AG-3) in a northern potato-cultivation environment in Finland.** *Rhizoctonia* isolates were taken from stem canker lesions, stolon and root lesions, hymenia on stems or black scurf on tubers. All isolates, except for three, belonged to anastomosis group 3 (AG-3). The isolates varied considerably in their sensitivity to the fungicide flutolanil and in their growth rate. Disease severity in 99 isolates was 1-60%. Only two of the isolates that caused severe symptoms showed low sensitivity to the fungicide. The work reveals that there is considerable variability in the disease-causing isolates of *Rhizoctonia* in Finland. Lehtonen et al. (2008) *Plant Pathology* 57: 141-151.

**Determination of the anastomosis grouping and virulence of *Rhizoctonia* spp. associated with potato tubers grown in Lincoln, New Zealand.** Fifty-eight isolates of *Rhizoctonia* spp. were taken from potato tubers showing black scurf disease symptoms in Lincoln, New Zealand. These were assigned to 11 different anastomosis groups (AG) and put through pathogenicity tests on radish, carrot, lettuce, onion, tomato and hemp. All isolates were virulent at varying degrees to the six plant species, but isolates from AG-3 and AG-D had highest disease severity and those from AG-8 and AG-Ba the lowest disease severity on all six species. Based on tests with all *Rhizoctonia* isolates, tomato plants were most resistant and radish was the most susceptible plant species. Farrokhi-Nejad et al. (2007) *Pakistan Journal of Biological Sciences* 10: 3786-3793.

**Dynamics of soilborne *Rhizoctonia solani* in the presence of *Trichoderma harzianum*: effects on stem canker, black scurf and progeny tubers of potato.** This study looked at the relationship between the biological control fungus *Trichoderma harzianum* and potato diseases caused by *Rhizoctonia solani*. *Trichoderma harzianum* reduced the severity of stem lesion symptoms during the first seven days post-inoculation, but at later stages the effect diminished. However, the severity of black scurf on progeny tubers was reduced by *T. harzianum*. The biocontrol treatment also reduced the number of progeny tubers, the proportion of small tubers and the numbers of malformed and green-coloured tubers. Wilson et al. (2008) *Plant Pathology* 57: 152-161.

### WEEDS

**Effect of hairy nightshade on potato nematodes, diseases, and insect pests.** Hairy nightshade is a common weed in potato crops. This paper describes the many reasons for controlling hairy nightshade, as it is a host to some important potato parasitic nematodes, diseases and insect pests. For example, Columbia and northern root-knot nematodes, and stubby root nematode are all found in hairy nightshade, and the latter can transmit tobacco rattle virus, the cause of corky ringspot disease. Hairy nightshade is also a host of potato leaf roll virus, and green peach aphids tend to land and readily reproduce on the weed. Virus transmission from hairy nightshade to potato was four times greater than from potato to potato. Boydston et al. (2008) *Weed Science* 56: 151-154.

### PATENT APPLICATION

**Proteins involved in after-cooking darkening in potatoes (WO 2008/046189 A1).** Inventors: G Wang-Pruski, P Murphy & DM Pinto (24 April 2008), Nova Scotia, Canada. This patent application describes proteins that are associated with increased after-cooking darkening. The proteins may be used in diagnostic assays for this characteristic, while inhibiting or activating the proteins may regulate the after-cooking darkening process.

## Popular articles

### BOOK

#### Pests and Diseases of Potatoes – A Colour Handbook

The authors of this book are well known potato specialists Stuart Wale and Bud Platt, who have worked with professional photographer Nigel D. Cattlin. There are around 235 great colour photographs of affected potato crops, which, along with the informative text, will help to rapidly and accurately identify pests and diseases. The book includes clear and concise descriptions of the symptoms and cycles of diseases and disorders, describes the distribution and importance of pests and diseases and offers advice on control measures. This book will be an excellent practical reference source for potato scientists, growers, students and others involved in potato production, handling and storage. [www.potatonews.com/knowledgecenter/books.asp](http://www.potatonews.com/knowledgecenter/books.asp).

### WWW.SPUDMAN.COM

**M&M Heath Farms.** An organic potato farm in Idaho produced its first crop of potatoes in the mid 1980s. Despite a lack of profitability in the initial years, Mike Heath continued to work on developing markets and now produces 16 varieties. His crop rotations are longer (typically 5-7 years) than conventional potato growing systems but this is an advantage as the variety of crops he produces helps to spread the seasonal workload. *January 2008, p. 10.*

**Quality cooperation.** The efforts of a North Dakota potato grower, a Michigan University plant breeding lab and a mini-tuber seed grower to improve the quality of red potatoes are described in this article. Much of the focus is on trying to eliminate the poor characteristics of existing varieties and this is done by culling tubers with undesirable qualities from test plots. The process is expensive and labour-intensive, but is very important for visual characteristics, such as eliminating the pink colours sometimes found in Dark Red Norland tubers. *January 2008, p. 22.*

**The search for Zebra Chip.** This disorder was first noticed in Mexico in 1994 and found in Texas in 2000. It is characterised by dark stripes through the tuber, which are the result of increased sugar content. All cultivars appear to be susceptible. Vectors for the disorder have not been established but it is thought that the causative micro-organism may be vectored by an insect. The top suspect is potato psyllids, very tiny insects that feed on the phloem of plants. *January 2008, p. 26.*

**Healthy attributes.** This article discusses the range of beneficial compounds found in potatoes by a group of researchers from the ARS and Washington and Oregon State Universities. Studying 100 wild and commercial potato varieties, the team has found over 60 different phytochemicals and vitamins, with many different health benefits. For example, five different types of kukoamines have been isolated and these compounds have been associated with lowering of blood pressure. *January 2008, p. 30.*



**PRESS RELEASE****New potato center to help global research in agriculture.**

China, the world's biggest producer and consumer of the tuber, will soon set up a potato research center for the Asia-Pacific region. The center will be part of the Peru-based International Potato Center, which operates under the Consultative Group on International Agricultural Research (CGIAR), and will be set up in conjunction with the Chinese Academy of Agricultural Sciences. Seven CGIAR centres have been set up in China since 1984 and they have produced excellent research results. For example, 95% of the hybrid rice varieties grown in China have CGIAR parental material, and a CGIAR-Chinese partnership, which has bred a potato variety named 'Cooperation-88', has been instrumental in increasing Chinese potato production and consumption. 03 December 2007; Source: China Daily.

**Snippets from www.potatonews.com**

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.

**JANUARY 2008: NEWS HEADLINES****United Kingdom: Prioritise potato seed for Rhizoctonia protection.**

In December, industry experts in the UK cautioned growers to avoid cutting corners with Rhizoctonia control. Despite the current low levels of black scurf on tubers, it only takes the right soil conditions in the following season to initiate a strong disease cycle. The threshold of 1% infection is only an approximate guideline and is difficult to establish by visual inspection. New liquid seed treatments offer significant advantages over on-planter dust treatments.

**JANUARY 2008: FEATURE ARTICLE****Growing organic potatoes: It takes a new management system...**

An article produced by Guenther et al. ([http://theptgi.com/resources/organic-july\\_2007.pdf/](http://theptgi.com/resources/organic-july_2007.pdf/)) from the University of Idaho, examines the market and production issues for organic potatoes. The market is growing but since the overall supply is small relative to total potato production, growers must be careful not to flood the market, which would result in a large drop in produce price. It is difficult and expensive to grow organic potatoes, so this situation must be avoided.

**FEBRUARY 2008: NEWS HEADLINES****United Kingdom: Food intolerance experts said potato the safest food in Britain.**

Food intolerance experts YorkTest.com tested 8000 people in the UK and found that, for potato, fewer than 1% were in the highest intolerance bracket. What is so remarkable about potato is that it is such a highly consumed food, contributing up to 20% of the diet. Other foods that cause few adverse reactions were grapefruit, apricot, apple, barley and lemon.

**New Zealand, United States: Neo-infrared scanner spots diseased potatoes.**

Auckland company, Taste Technologies, has developed a sorting method that can detect whether tubers have zebra chip disease before they are sent to the processor. During the disease process some of the starch is converted to soluble sugar. When the potato is cooked, the sugar burns and goes black, causing zebra-like stripes. The NIR technology works by shining a light on the potato, and the ratio of absorbed to reflected light will change with altered sugar content. Infected tubers can be detected and removed from the crop. Taste Technologies has developed similar methods for testing the sweetness of apples and kiwifruit.



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