

# vegetables

## australia

July/August 2016

**David Wishaw**  
Young grower

**Clem Hodgman**  
Planning for a positive future

**2016 National  
Horticulture Convention**  
Industry collaboration

**The Front Line**  
Exotic fruit fly edition



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## Messages from the AUSVEG Chairman and Interim CEO



## Geoff Moar

### AUSVEG Chairman

The 2016 National Horticulture Convention has once again proven to be a great success, not only for AUSVEG but for our six industry co-hosts – Apple and Pear Australia Limited, the Central Markets Association of Australia in partnership with Fresh Markets Australia, Growcom, Australian Organic, Persimmons Australia and Onions Australia.

Held from 23-25 June, the Convention attracted a record number of more than 1,500 delegates to RACV Royal Pines on the Gold Coast, making this a truly united event for the Australian horticulture industry and its members.

I would like to thank our Convention co-hosts, Strategic Partners, delegates, exhibitors and speakers for their contribution to the overall success of the event.

It was particularly pleasing to see over 100 booths at this year's Trade Show and the businesses that went above and beyond in the creativity of their displays. In particular, I would like to congratulate Yara for receiving the award for the best Multi-Booth display and Toro for the most impressive Single Booth display. I'm sure every delegate at the Convention came away with expanded knowledge and expertise after visiting this year's Trade Show.

Once again, over 40 leading buyers from Asia and the Middle East participated in the 2016 Reverse Trade Mission, which presented the opportunity for Australian growers to establish key export contacts. The delegation toured farms in Victoria, South Australia and Queensland before attending the National Horticulture Convention. Their visit incorporated a Fresh Produce Display at the Convention,

which allowed delegates to meet with export-ready growers and witness the high quality produce that our industry is renowned for.

Delegates also enjoyed a range of networking events throughout the Convention. More than 100 guests attended the Women in Horticulture High Tea at Palazzo Versace on Saturday 25 June, which gave women a platform to discuss the diverse skillset that they can apply to a growing operation.

It was a privilege to have Pip Courtney, host of ABC program *Landline*, chair the event. Attendees also heard from several inspiring women including former Member for Murray Dr Sharman Stone and a panel of leading female growers. Their presentations were empowering, entertaining and all speakers were more than willing to answer questions from the audience. It added another dimension to the Convention and I thank Belinda Adams and the team who made this event possible.

Geoff Moar  
Chairman  
AUSVEG



## Simon Bolles

### AUSVEG Interim CEO

It was a great pleasure to witness yet another successful National Horticulture Convention, with more than 1,500 delegates travelling to RACV Royal Pines on the Gold Coast to attend the event.

The Convention attracted more people from the wider horticulture industry than ever before, with this year's delegate numbers breaking the previous Convention attendance record, proving that the event is indeed a highlight of the Australian horticulture calendar. I would like to thank our hard-working marketing department, led by Nathan McIntyre and Sam Clayfield, for their efforts in organising this event as well as our friends from Apple and Pear Australia Limited.

Delegates were drawn to a number of engaging speaker sessions throughout the Convention, and at times it was standing room only as a diverse range of speakers from both the local and international horticulture industry delved into a range of topics, from labour hire to insecticide resistance.

Many of these thought-provoking presentations generated plenty of discussion among delegates. Former journalist and founder of the Genetic Literacy Project Jon Entine provided an in-depth look at genetic modification, while Southern Californian vegetable grower Jack Vessey discussed the challenges facing farmers in the United States.

The three-day event was capped off with the National Awards for Excellence Gala Dinner, where the vegetable, potato, apple and pear industries came together to recognise the best of the best.

I would like to congratulate all of the AUSVEG and APAL winners, particularly our well-deserving Grower of the Year, Rob Hinrichsen from Kalfresh, whose contributions to the industry extend far beyond his own farm.

Dr Lucy Tran-Nguyen took out the joint industry Researcher of the Year award, following her efforts in managing the Cucurbit green mottle mosaic virus outbreak in 2014/15, while leading female grower Sharron Windolf was also awarded the joint industry Women in Horticulture award. The awards ended with a special presentation of the AUSVEG Lifetime Achievement Award, which went to former potato grower Wayne Cornish from South Australia.

Many delegates also made the most of the opportunity to attend two vegetable levy-funded seminars that were held on either side of the Convention. The Global Innovations in Horticulture Seminar brought together a range of local and international speakers who enlightened attendees with the up-and-coming technologies making their mark in global horticulture. Meanwhile, the Practicalities for Exporting Vegetables Symposium gave vegetable growers who are interested in exporting produce a practical overview of the process.

Needless to say, planning is already underway to bring you a bigger and better 2017 National Horticulture Convention.

Simon Bolles  
Interim Chief Executive Officer  
AUSVEG

**AUSVEG Chairman**

Geoff Moar

**AUSVEG Interim CEO**

Simon Bolles

**Communications Manager**

Shaun Lindhe

shaun.lindhe@ausveg.com.au

**Senior Communications Officer/Editor**

Dimi Kyriakou

dimi.kyriakou@ausveg.com.au

**Writer/Journalist**

Michelle De'Lisle

michelle.delisle@ausveg.com.au

**Graphic Design**

Claire Pini

claire.pini@ausveg.com.au

**Editorial Enquiries**

AUSVEG

Ph: (03) 9882 0277

Fax: (03) 9882 6722

info@ausveg.com.au

**Advertising**

Marc W. Wilson

Gypsy Media

M: 0419 107 143

marc@gypsymedia.com.au

**Print**

RA Printing



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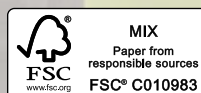
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**FRONT COVER:**

David Wishaw

Photograph by Belle Young

It was an honour for the team at *Vegetables Australia* to meet and greet so many vegetable growers and industry members at the 2016 National Horticulture Convention held at RACV Royal Pines on the Gold Coast from 23-25 June.

A record breaking 1,500 delegates attended the Convention this year and for those who were unable to come along, a full wrap-up of the event can be found on page 10. The annual National Awards for Excellence Gala Dinner also celebrated the achievements of outstanding members in the industry. A full list of winners from the night can be found on page 14.

Two vegetable levy-funded events were held on either side of the Convention, with a range of speakers presenting on a wide variety of topics. The Global Innovations in Horticulture Seminar on 23 June gave Australian growers an insight into the latest in innovative technology from around the world (page 20), while the Practicalities

for Exporting Vegetables Symposium on 26 June provided key details about establishing a grower's business for export (page 32).

The AUSVEG Export Development team was kept busy during the Convention, hosting more than 40 international fresh produce buyers from Asia and the Middle East who took part in the 2016 Reverse Trade Mission. It was encouraging to see so many export-ready Australian growers show off their produce at the Convention and discuss business opportunities with potential buyers. Turn to page 42 for more.

Stepping back from the excitement of the Convention, this edition's Young Grower profile focuses on David Whishaw from Armidale Pty Ltd located in Carrick, Tasmania. In addition to growing vegetables, David helps run Armidale Thoroughbred Horse Stud (page 18).

Our EnviroVeg profile is another Tasmanian vegetable grower – Chris McKenna, who



discusses how the program has helped overcome the challenges of farming in the north-west of the state (page 38).

Meanwhile, Clem Hodgman

discusses his role at Barden Produce and his goals and challenges the industry faces in our Grower profile (page 30).

We hope you enjoy this edition.



## Category Profiles for vegetables

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# Veggie bites

Facts & figures...



28%

Project Harvest Wave 35 research indicated that 28 per cent of consumers used spring onions when cooking a new recipe.

31

Sweden's Linus Urbanec holds the Guinness World Record for the most Brussels sprouts eaten in one minute. He swallowed 31 on 26 November 2008.



2/3

Awareness of radish types is very low, according to Project Harvest Wave 35 research. Two-thirds of consumers can't identify a type of radish, with most choices being based on colour.

600  
grams

Project Harvest Wave 31 research found the average weight of cucumbers purchased by consumers is 600g.



25%

One serve (75 grams) of kale, according to Veggycation®, provides 25 per cent of the recommended dietary intake of a range of nutrients, including vitamin A, vitamin C and vitamin K as well as copper.



411,400  
households

According to the April 2016 Nielsen report, sweetpotato added 411,400 households to its buyer base in the year to 16 April 2016.



75  
grams

Veggycation® states that one serve (75 grams) of bok choy provides a good source of vitamin C and vitamin K (25 per cent of the Recommended Dietary Intake or 4g for fibre).

40%

The Harvest tracker from Project Harvest Wave 33 revealed that over 40 per cent of consumers are interested in some form of pre-prepared or pre-packed vegetables.



This communication has been funded by Horticulture Innovation Australia Limited using the National Vegetable Levy and funds from the Australian Government.

Project Number: VG15027

**Horticulture  
Innovation  
Australia**





## Knowledge grows



# Consistent quality vegetables make a big difference to the bottom line.

The challenges of growing vegetables, in an environment of changing climate and issues with water, can be helped by using inputs of high quality according to Werribee South producer, Carmelo Santamaria.

Mr Santamaria is a third generation producer whose family farm 150 acres of broccolini, cauliflower and broccoli in the southern Victorian region. He said climate change and water are definite issues for the region. "In rising to those challenges we've got to make sure that we use the best inputs available to us to combat the problems we have," he said. "That's where Yara has been a big part of that."

***"Changing to Yara products and using Yara products for a long time now has allowed us to do a wonderful job."***

Mr Santamaria said they used products from the Yara fertiliser range throughout the year and throughout the crop development to achieve high yielding and quality vegetables. "We use Yara Kristalon Blue in the nursery."

***"The consistency of the product we buy helps us be consistent on the growing side of things. That just translates to profits down the track. The more consistent you can be, the better you can run your farm."***

"The healthier the plants are when we transplant, the quicker they take off and the better they grow in that first month. Yara's Kristalon Blue, in particular, we use once or twice weekly as it is

important to keep them growing right throughout."

***"Once we get them out in the paddock, we are using: YaraMila™ Universal, YaraMila™ Complex and YaraLiva™ Tropicote."***

So right through the process we are using Yara products and it is helping tremendously." Mr Santamaria said their base product out in the paddock is YaraMila™ Universal. "It is just a product that has been introduced recently and we love it."

"The two most important things in a base dress are the nitrogen and the phosphorous," he said. "It has a very high analysis in that regard so we're able to use less to get more results." We've found that our yields have increased this year using the Yara products. So we've been really happy with them."

"We are side-dressing and base-dressing with ground applicators. We band it on top of the rows so we are concentrating it, this allows us use a little bit less. All of it is right there next to the root zone so we get a great result."

Mr Santamaria said the Yara range of products had "helped produce vegetables of excellent yield and quality. "We are getting better yields, a denser product with weight in it and that's really important in broccoli, also with broccolini.

***"When you just get that healthiness, that denseness, that weight, that***



***makes a big difference to the bottom line, a gigantic difference."***

"You have your costs and then every dollar you can make above that is just cream so they've been really good in helping us get the yields."

He said the consistency of the vegetables meant they would often save a cut at harvest.

***"We are definitely harvesting less. We are getting more cut per our labour hour. So we are saving on our labour costs."***

Vegetables all need to be hand-picked so if we can save anything in the labour side of things it is great. It means a lot to the bottom line." *For more information please contact your local sales agronomist.*



DuPont Masquerade Theme Night.

## 2016 National Horticulture Convention gives growers and suppliers a chance to shine

IT WAS YET ANOTHER RECORD-BREAKING EVENT WHEN AUSVEG AND SIX INDUSTRY BODIES JOINED FORCES TO CO-HOST THE 2016 NATIONAL HORTICULTURE CONVENTION FROM 23-25 JUNE. MORE THAN 1,500 DELEGATES CONVERGED ON THE GOLD COAST'S RACV ROYAL PINES FOR THREE EVENTFUL DAYS THAT INCLUDED NETWORKING, SPEAKER SESSIONS AND RECOGNISING OUTSTANDING GROWERS AND INDUSTRY MEMBERS.

### THURSDAY 23 JUNE

The stage was set for the Australian horticulture industry's biggest event, with delegates making their way to the Gold Coast's RACV Royal Pines for the 2016 National Horticulture Convention.

For the first time, the event was hosted by AUSVEG and Apple and Pear Australia Limited (APAL) alongside the Central Markets Association of Australia in partnership with Fresh Markets Australia, Growcom, Australian Organic, Persimmons Australia and Onions Australia. This collaboration signified that the event was well on its way to becoming a true National Horticulture Convention.

The three-day Convention presented the nation's vegetable

and potato growers with the opportunity to discuss industry issues and learn from each other and their overseas counterparts. It was also a great way for members of the wider horticulture industry to connect with one another and discuss areas of mutual concern.

During the first day of the Convention, APAL held its Annual General Meeting along with Industry Updating and Variety Showcase sessions, where a series of researchers presented key findings on apple and pear projects.

In the evening, delegates gathered for the Welcome Reception. Former AFL footballer and Master of Ceremonies Peter Daicos introduced Federal Trade and Investment Minister Steven Ciobo MP, who discussed the

important role of Australian agriculture into the future.

The welcome ribbon was cut, marking the official opening of the 2016 Convention Trade Show. With more than 100 industry booths on display, the Trade Show would certainly offer plenty to talk about over the coming days.

### FRIDAY 24 JUNE

Friday began with an outdoor breakfast, where Syngenta Head of Speciality Crops Bob Mullins spoke about a new insecticide from the company called Tervigo, which can be used to effectively control Root-knot nematodes. This was followed by entertainment from Linsey Pollak, who captured the crowd's attention by making and playing a variety of home-made

instruments, including a carrot clarinet, a garden hose, lawn stool, coil and feather duster.

After breakfast, the first round of speaker sessions kicked off with delegates turning out to listen to industry leaders. Australian Competition and Consumer Commission (ACCC) Executive General Manager of the Consumer, Small Business and Product Safety Division, Nigel Ridgeway, provided the opening address and explained how the ACCC will work with industry to enforce new initiatives such as clearer country of origin labelling requirements.

Freshlogic Managing Director Martin Kneebone then spoke about the opportunities and challenges of marketing fresh fruit and vegetables to compete in the \$9 billion snack food

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**QLD & NT:**  
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Dow AgroSciences Managing Director Rob Kaan.

industry. He was followed by Horticulture Innovation Australia (Hort Innovation) Marketing Manager Craig Perring, who addressed the audience on 'The Secret Serve' onion marketing campaign and the challenge to lift the profile of onions among consumers.

Peracto's Chris Monsour spoke about an important topic: insecticide resistance. Mr Monsour outlined resistance management challenges, as well as the importance of understanding chemical options and developing a resistance management strategy.

### Timely discussions

American journalist and founder of the Genetic Literacy Project Jon Entine captured the audience with his thoughts on genetic modification and precision farming and his defence of "Big Ag" and "disruptive" technologies. His controversial presentation also sparked much debate from

the audience.

Growcom Chief Advocate Rachel Mackenzie then brought labour hire concerns to the fore and advised growers to do their research on labour hire companies and be aware of their own responsibilities.

The keynote speaker of the 2016 Convention was Dow AgroSciences Managing Director Rob Kaan. Mr Kaan's presentation was entitled 'The Innovation Cemetery' and it outlined behaviours that brought about the demise of innovations in different industries. Mr Kaan echoed Chris Monsour's sentiments about the industry's response to insecticide resistance in agriculture as well as its economic impacts.

Elders CEO Mark Allison enlightened the audience with a lively presentation on the challenges of rebuilding the agribusiness, while Australian Taxation Office Assistant Commissioner Scott Parkinson spoke about 'phoenix behaviour' among labour hire companies,



Women in Horticulture High Tea centrepiece, donated by the Central Markets Association of Australia.

Photography by Andrew Beveridge.

which is essentially a fraud-driven wealth creation strategy.

Sundrop Farms Managing Director Steve Marafiote and Coles Head of Public Affairs Simon Talbot conducted a Q&A session about the partnership of their respective companies following the development of a commercial tomato farm under greenhouses in the South Australian desert.

Australian Organics Chair Dr Andrew Monk gave an explanation of the organic certification process and what to expect, before Friday's speaker sessions wrapped up with a presentation from Stannards Accountants and Advisors Partner Jason Wall who discussed common business mistakes and business sale and expansion.

### Networking events

During the speaker sessions, a selection of export-ready Australian growers took hold of the opportunity to show off their high quality produce to 40 international buyers during the Reverse Trade Mission Fresh Produce Display, with many developing new leads to export their produce to key markets in Asia and the Middle East.

Following lunch was a business session targeted at women in horticulture, entitled 'Step out to step up: Upskilling and inspiring professionals working in horticulture production'. This session featured robust discussion and presentations from AUSVEG Director and Queensland

vegetable grower Belinda Adams as well as Montague Fresh International Trade Development Manager Claire Fitchett.

Delegates then had the chance to wind down and relax after a busy day with the DuPont Masquerade Theme Night on Friday evening. It also gave them the opportunity to network with friends and colleagues while being entertained by two mimes and a jazz band.

### SATURDAY 25 JUNE

Those up bright and early on Saturday morning were treated to an outdoor breakfast once again. Dr Sharman Stone, former Member for Murray, addressed the audience about the issues she faced while in parliament, particularly during the trying times of calling for government assistance to save local processor SPC Ardmona.

Following breakfast, AUSVEG and APAL delegates broke off into two concurrent speaker sessions that targeted issues in their respective industries.

AUSVEG delegates heard from Watermark Advisory Services Russel Gooch and Trainee Patent and Trade Marks Attorney Renee White, who outlined the R&D Tax Incentive Program and its implications for growers. United States vegetable grower Jack Vessey spoke about issues facing vegetable growers in southern California and highlighted how the industry responded to and managed a devastating

salmonella outbreak in the state in 2006.

Syngenta Vegetable Seeds Global Head of Marketing Massimo Enzo then outlined the global vegetable industry's market dynamics while Adama Australia General Manager of Technical Development Andrew Horsfield discussed the future of Nimitz nematicide in fruit and vegetable crops in Australia.

Kalfresh Agricultural Director Rob Hinrichsen presented an entertaining piece entitled '40,000 Kilometres and Five Cows', where he addressed the issues of soil health and controlled traffic farming.

Rounding out the morning's speakers was Tony Chilvers, eCommerce and Technology Content Marketer, who stressed the importance of social media and technology in marketing products.

Following the closure of the Trade Show, it was time for the ladies to be wined and dined with the Women in Horticulture High Tea at Palazzo Versace. Hosting the event was Pip Courtney from the ABC's *Landline*, while Dr Sharman Stone once again made a

keynote address where she urged women in the industry to step up and take on challenging roles in horticulture.

The success of Kalfresh's Just Veg range was highlighted before a Q&A session was conducted with the grower panellists, which included Alice Gorman, Jane Miles and Tracey Rieck from Kalfresh; Sharron Windolf from Windolf Farms and Hort Innovation Director Susan Finger. Their comments led to an insightful discussion about women in horticulture, the opportunities presented and stepping up to grasp them when they do become available.

### Acknowledging the best

As the 2016 Convention came to a close, delegates turned out to RACV Royal Pines in their finest evening wear for the National Awards for Excellence Gala Dinner. This was the night where both AUSVEG and APAL celebrated the achievements of leading members of the vegetable, potato, apple and pear industries.

Out of the AUSVEG award winners, Kalfresh

had a successful night. The Queensland-based business picked up the Innovative Marketing Award for Just Veg while its Agricultural Director Rob Hinrichsen claimed the prestigious AUSVEG Grower of the Year award and captivated the audience with his acceptance speech.

South Australia's Thang Hoang Le, better known as 'Aussie Kev', received the Young Grower of the Year award to plenty of applause, and former potato grower Wayne Cornish, also from South Australia,

was recognised for his tireless commitment to the industry with the AUSVEG Lifetime Achievement Award. The full list of award winners can be found on page 14.

AUSVEG would like to thank the six industry bodies for their partnership in hosting the 2016 Convention, as well as the support from its Strategic Partners, delegates, speakers and exhibitors who attended. Without this collaboration and support, the event would not have been such a success.



2016 Trade Show.

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# 2016 NATIONAL AWARDS FOR EXCELLENCE

THE 2016 NATIONAL AWARDS FOR EXCELLENCE CELEBRATED THE OUTSTANDING ACHIEVEMENTS AND CONTRIBUTIONS MADE TO THE AUSTRALIAN HORTICULTURE INDUSTRY BY GROWERS, RESEARCHERS AND ORGANISATIONS, AT A MAGNIFICENT GALA DINNER.

## GROWER OF THE YEAR



L-R: Rob Hinrichsen and Syngenta Head of Specialty Crops Bob Mullins.

## LIFETIME ACHIEVEMENT AWARD



L-R: Wayne Cornish and AUSVEG Chairman Geoff Moar.

## RESEARCHER OF THE YEAR



Bayer Head of New Business Development Richard Dickmann (on behalf of winner Dr Lucy Tran-Nguyen).

## WOMEN IN HORTICULTURE AWARD



L-R: Sharron Windolf and Steritech General Manager, Queensland Glenn Robertson.



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### RISING STAR OF THE YEAR



L-R: Coles Brand Business Manager Fresh Produce Richard Luney and Jacob Parrish.

### YOUNG GROWER OF THE YEAR



L-R: Thang Hoang Le "Aussie Kev" and Dow AgroSciences Horticulture Business Manager John Gilmour.

### ENVIRONMENTAL AWARD



Netafim State Sales Manager Andrew Pollard (on behalf of winner Tony Croft).

### INDUSTRY IMPACT AWARD



L-R: Jill Briggs and Visy State Sales Manager Kym Ziersch.

### COMMUNITY STEWARDSHIP AWARD



L-R: Greg Owens and DuPont Marketing and Sales Manager Jeremy Cocks.

### INNOVATION PARTNER AWARD



Boomaroo Head of Sales and Marketing Emily White, Bayer Head of New Business Development Richard Dickmann and Bayer Product Manager Lachlan Bird.



INNOVATIVE MARKETING  
AWARD



Kalfresh representatives and Angelo Demasi from the Central Markets Association of Australia.

TRADE DISPLAY OF THE YEAR: SINGLE BOOTH



L-R: Toro Territory Manager Brad Batten and Toro National Sales Manager Luke Ognibene.

TRADE DISPLAY OF THE YEAR: MULTI-BOOTH



L-R: Yara Sales Agronomist/South VIC and Tasmania Keith Fallow and Yara Commercial Coordinator Premium Offerings Paul Eitzen.



## Young grower profile

**Name:** David Wishaw  
**Age:** 32  
**Location:** Carrick, Tasmania  
**Works:** Armidale Pty Ltd  
**Grows:** Beans, onions, shallots, peas, poppies, cereals, lucerne and seed crops. Also runs Armidale Thoroughbred Horse Stud, background in cattle and lambs.



### How did you first become involved in the vegetable industry?

I guess I have been involved in agriculture all my life in one way or another. I am a fourth generation farmer and was lucky enough to be born on our family farm Armidale, near Carrick in northern Tasmania. I spent my early childhood following my father or grandfather around the farm and then applying what I had learnt in my super-sized sand pit – moving irrigation, making silage and planting grass. After school, I went on to study agricultural science at the University of Tasmania in Hobart and then returned to run the family farm when my father passed away in 2004.

### What is your role in the business?

I guess my title is Managing Director. I'm across all enterprises in our business, a jack of all trades, but a master

of none. I steer the ship and am very lucky to have a hard working and capable crew.

### How would you describe your average day at work?

There is no such thing as an average day in our business; we have so much variety over our different enterprises. Between the thoroughbred horse stud, veggies and other cropping and livestock production, every day is different. When things are running smoothly, I'm forward planning, communicating and trying to improve the business. Other days, I'm trying to guide the team in the right direction, problem solve and fill in gaps in the labour force.

### What do you enjoy most about working in the vegetable industry, and how do you maintain your enthusiasm?

I love the variety of work, visibly





Photography by Belle Young.

seeing the difference you make in your everyday work and the sense of achievement when you pull off a good crop or sale. At times, things are tough for sure but the agricultural community is great and there are always others going through the tough times with you and you pick one another up.

The friendship and camaraderie in agriculture is probably one of the best things about it. I don't think lack of enthusiasm has ever been a problem for me. Maybe at the end of a long, wet and cold winter you're not firing on all eight cylinders, but as soon as spring comes around the turbo charger kicks back in.

### What are the biggest challenges you face working in the industry?

Managing people, be it staff, suppliers, contractors and family members. If they were all like my number one worker – Zippa, the Border Collie sheep dog – it would be a lot easier.

### How have recent weather events in Tasmania affected the farms?

Well, let's just say it's posed

some new challenges. Although we only had around 160mm fall on our properties, there were huge falls in all three river catchments that affect the farm.

We farm on two properties, and they both ended up with over half the farming ground flooded in the biggest flood we've seen. The water has subsided but we haven't started the clean up yet.

We were very lucky not to lose any livestock like others along the river, although we did spend half a day swimming stock out with a couple of boats. The main damage is now irrigation infrastructure, fences and the loss of 220 hectares of feed and a lucerne crop. Let's hope there are a few treasures washed up in all the flood debris!

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

I think there are heaps of opportunities for growth in agriculture when the right people are involved. The few that stand out to me are:

- Value adding to the end product, selling the farmer's story and re-creating the connection between the end user and where and how their

food and fibre are grown.

- Integration of technology to make farming more efficient and sustainable across all aspects of farming business.
- Economies of scale by developing relationships with suppliers of the end product, becoming their preferred supplier and concentrating on what you're good at and outsourcing other areas to experts.

I also see the potential to create new markets for foods we haven't traditionally eaten. But I see the majority of the growth coming off the back of increased food, fibre and pharmaceutical demands with the world's growing population, and Australia becoming a preferred supplier into other growing countries.

### How do you think more young people could be encouraged to study and take up jobs in the vegetable industry?

Get them out and about with progressive people in the industry when they are young. I think it's hard to attract people into agriculture when they haven't grown up with it. That being said, the technology field is flying and with that brings

huge opportunities for people interested in that area to make a difference in agriculture. I think the reality is that you need to work hard and smart to make a living out of agriculture these days, and not many people in my generation are interested in that. That's not always a bad thing though, as those left should have the world at their feet.

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

Gee, that's a hard one. Either a fighter pilot or a washed up drunk publican in some country town!

### Where do you see yourself in five years?

I don't have any plans to go anywhere, but hopefully I may be able to prove myself as a stallion and have some colts and fillies running around, sleeping in the tractor while I work and I can be teaching them how to run a successful sand pit!



# Mighty tough on chewing pests

with a little soft spot for beneficials



Photography by Andrew Beveridge.



Plant and Food Research New Zealand Pollination Scientist Dr David Pattemore.

## Vegetable growers tune in to innovative ideas

IN THE LEAD-UP TO THE 2016 NATIONAL HORTICULTURE CONVENTION, THE GLOBAL INNOVATIONS IN HORTICULTURE SEMINAR DEMONSTRATED TO ATTENDEES THE VERY LATEST IN INNOVATIVE TECHNOLOGY FROM AROUND THE WORLD. THE SEMINAR SHOWCASED A VARIETY OF IDEAS THAT ARE AT THE LEADING EDGE OF AGRICULTURAL INNOVATION.



Key Technology representative Marco Azzaretti.

Nine thought-provoking speakers from around the world presented at the 2016 Global Innovations in Horticulture Seminar on Thursday 23 June at RACV Royal Pines on the Gold Coast. Speakers presented to vegetable growers and industry representatives and discussed the very latest in vegetable R&D.

This year's presentations covered a wide array of horticultural sciences and emerging technologies, such as robotic technology, precision irrigation, pollination, processing machinery, horticultural innovation, plant breeding, agricultural economics and genetic modification.

how government regulation of products is the main issue facing agriculture today.

Dr Amos Albert, CEO of Bosch Deepfield Robotics in Germany, discussed the topic 'From the internet of fields to the internet of plants'. This presentation covered key points such as Deepfield Robotics' basic philosophy, as well as the benefits in regards to how they collect and process environmental data, the models they use to help farmers make better decisions, and how to manage feedback loops appropriately. Dr Albert also showed a live demonstration of a 4D scan, and its automated field testing abilities.

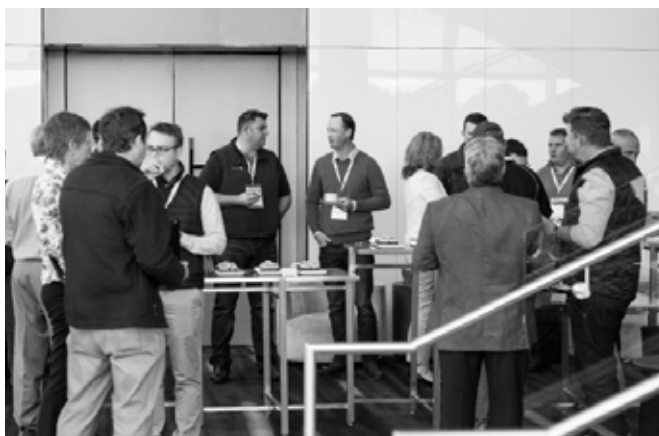
### GM and robots

During the course of the Seminar, genetic modification guru, author and Senior Research Fellow at the Institute for Food and Agricultural Literacy from the University of California, Jon Entine, presented on innovation and new breeding techniques which are revolutionising food and farming. Mr Entine touched on subjects such as how industrial agriculture is often used in social media, the benefits of sustainability, and

### In awe of automation

Wageningen University researcher and Expertise Leader in Computer Vision from the Netherlands, Dr Gert Kootstra, presented on automating the food industry. This covered ways in which processing machinery can help reduce food costs, improve product quality, reduce food waste, assess the quality of every food item, optimise logistics and increase shelf life.

Additionally, Dr Kootstra offered a summary of the challenges facing the vegetable





processing machinery industry, such as variation in packaging and variation in products.

Key Technology representative, Marco Azzaretti, presented on the benefits of the US digital sorting company's products to the industry. He focused on explaining how the company's sensor-based automatic inspection systems work, their capabilities, and why digital sorting should be considered for various farming operations.

Precision irrigation specialist and CEO of IRZ Consulting in the United States, Dr Fred Ziari, gave an insightful overview into the role of precision irrigation in horticulture. Dr Ziari also covered topics such as the impact of population growth, as well as water use efficiency, food requirements, biofuels and environmental improvement.

### Enhancing productivity

Dr Joe Guenther, Professor Emeritus of Agricultural Economics at the University of Idaho and consultant for Simplot, presented his views on how to enhance productivity with technology. His presentation focused on areas such as consumer acceptance, traditional breeding and innate technology, as well as the outline of grower costs.

Pollination Scientist from Plant and Food Research New Zealand, Dr David Pattemore, presented the topic 'Surprises in Pollination', which covered areas such as pollination's dependence on interaction with flowers and the environment, unlikely pollinators, as well as the importance of understanding what pollinator is visiting your crop.

Wageningen University Chair of the Plant Breeding sector Professor Richard Visser focused on the challenges of breeding climate-resistant vegetable crops. This covered areas such as threats to global food security, the need to produce more food with less input for more people, and the challenges in abiotic stress resistance. Finally, Dr David

Ireland, Principal of Australian organisation Thinkplace, gave an overview of the state of innovation in agriculture. Dr Ireland's presentation discussed topics such as the major issues surrounding food waste in the vegetable industry, and the importance of building effective partnerships to solve diverse business-related problems.

### An insightful Seminar

The 2016 Global Innovations in Horticulture Seminar provided all attendees with provocative insights into the here-and-now of modern horticulture. Attendees were delighted by the variety of topics and talent of speakers on the program, leaving them asking a wide range of thought-provoking questions during each of the panel question and answer sessions.

Feedback from participants showed that over 97 per cent of attendees would consider attending the Global Innovations in Horticulture Seminar again, illustrating its remarkable success. The event left a positive impact on delegates, who in many cases were confident they would implement the technology and ideas on display into their own growing operations.



All Seminar presentations will be made available on [ausveg.com.au](http://ausveg.com.au) in coming weeks.

This project has been funded by Horticulture Innovation Australia Limited using the National Vegetable Levy and funds from the Australian Government.

Project Number: VG15032



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# The National Vegetable Levy at work

## Who pays the National Vegetable Levy?

The levy is paid by growers who produce vegetables in Australia.

- The charge is set at half of one per cent at the first point of sale.

The Federal Government also provides funding in addition to grower levy payments. Once paid, these funds are managed by Hort Innovation.

## How is levy money invested?

There are now two pools with different funding priorities.

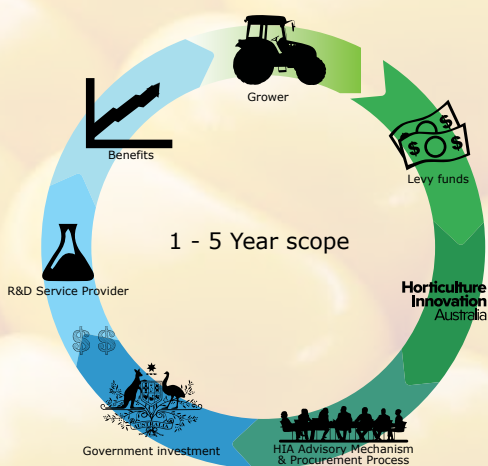
**Pool 1** is funded by grower levies with contributions from the Federal Government. This pool has a **one to five year scope** and will invest in applied R&D designed to directly benefit growers. This includes pest and disease management and biosecurity matters, with findings communicated through a variety of channels including *Vegetables Australia*.

**Pool 2** has a **one to 15 year scope** and matches strategic co-investment funds with at least \$20 million, at the Pool's maturity, of government seed funds annually. This pool aims to address multi- and cross-industry challenges and opportunities of strategic and long-term importance to Australia's horticulture industries.

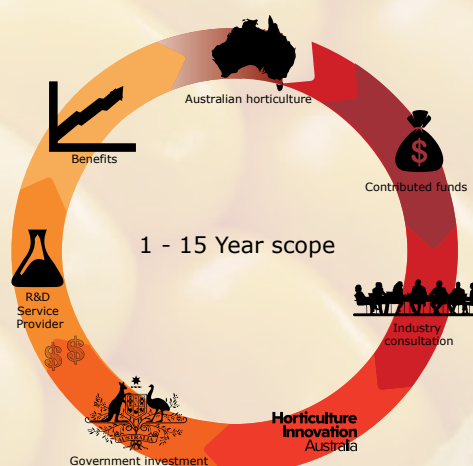
Five 'Foundation Funds' have so far been established in Pool 2 and will work with an expert panel to direct strategic projects. They are:

- The Leadership and People Development Fund
- The Fruit Fly Fund
- The Asian Markets Fund
- The Green Cities Fund
- The Health, Nutrition and Food Safety Fund

### Pool 1



### Pool 2



## How can growers get involved?

Vegetable growers play a fundamental role in advising on the allocation of both levy and co-investment funds, and will be engaged in extensive consultation with Hort Innovation in regional grower meetings, industry-specific consultation programs and individual grower and grower group consultation.

Growers can also submit ideas for R&D projects via Hort Innovation's Concept Portal at [horticulture.com.au/concept-proposal-form](http://horticulture.com.au/concept-proposal-form).

For more information about the National Vegetable Levy, visit [ausveg.com.au/rnd/thelevysystem/vegetablelevy.htm](http://ausveg.com.au/rnd/thelevysystem/vegetablelevy.htm)



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with Scott Mathew

THE SHELF LIFE OF AGRICULTURAL CHEMICALS CAN BE A POINT OF CONFUSION FOR MANY GROWERS, PARTICULARLY WHEN PRODUCTS ARE LEFT OVER FOLLOWING THE SPRAYING SEASON. SYNGENTA TECHNICAL SERVICES LEAD SCOTT MATHEW EXPLAINS THE MAIN POINTS TO KEEP IN MIND WHEN STORING CHEMICALS.

It's that time of the year, when the vast majority of summer spraying is over and growers are looking in their chemical shed and discovering they still have some agricultural chemical products left over, or an old drum that they recognise has been sitting in the same spot for a few years now and it raises a few questions.

One of the most common questions I get asked is: "I have a product that has been sitting in the shed for a while with a Date of Manufacture (DoM) on the drum. Can I still use it?"

This is hard to answer because 'shelf life' refers to the period an agricultural chemical can be stored before it deteriorates. This period is difficult to predict and is dependent on storage conditions. All chemicals, over time, can undergo chemical and physical changes during storage, which can impact the biological efficacy of the agricultural chemical.

As a general rule, most agricultural chemical manufacturers recommend storing pesticides no longer than two years. There are, however, some products that may specify

a use-by date, such as those products containing organisms (including nematodes, bacteria, viruses, algae or protozoa) or *Bacillus thuringiensis*.

### What are some factors that can impact 'shelf life'?

The 'shelf life' of an agricultural chemical can be affected by a number of factors, including the active constituent(s), the formulation type, the packaging and most importantly the storage conditions (temperature, light and humidity) under which the agricultural chemical has been stored (either in the warehouse or on the farm).

### What can happen if agricultural chemicals are not stored correctly?

When stored incorrectly, agricultural chemicals can deteriorate, especially under conditions of high temperature and humidity. The active ingredients can chemically break down into products that may no longer have pesticidal properties. Granule/wettable powder formulations can

become caked and compacted under conditions of high temperature and humidity and liquid formulations can separate.

### How is the 'shelf life' of an agricultural chemical determined?

Agricultural chemicals are manufactured, formulated and packaged to specific standards. During the registration process, the company registering a new agricultural chemical must generate storage stability data. This data should be generated with the product stored in the proposed commercial packaging

and material.

The information is then reviewed by the Australian Pesticides and Veterinary Medicines Authority (APVMA), which considers whether the product should remain within specification for at least two years from the DoM under normal storage conditions.

### If the DoM of the product I have is within two years, is it ok to use?

The product is considered fit-for-use, as prescribed on the product label, and within specification.



The R&D content for this article has been provided to *Vegetables Australia* to educate Australian vegetable growers about the most relevant and practical information on crop protection technologies and their on-farm applications.

This communication has been funded by Horticulture Innovation Australia Limited using the National Vegetable Levy and funds from the Australian Government.

For more information or to ask a question, please contact your local Syngenta Territory Manager, the Syngenta Advice Line on 1800 067 108, visit [www.syngenta.com.au](http://www.syngenta.com.au) or email *Vegetables Australia*: [info@ausveg.com.au](mailto:info@ausveg.com.au). Please note that your questions may be published.

Project Number: VG15027

**Horticulture  
Innovation  
Australia**



R&D

Drive Train

## Veggie Stats: Cucumber

TO ENABLE DEEPER INSIGHTS INTO THE PRODUCTION AND TRADE PERFORMANCE OF KEY AUSTRALIAN VEGETABLE PRODUCTS, WE HAVE DEVELOPED A SERIES OF CROP-SPECIFIC VEGGIE STATS PROFILES. THE NEXT INSTALMENT OF THIS SERIES FOCUSES ON CUCUMBER PRODUCTION.

The following Veggie Stats article has been developed specifically to give readers a detailed snapshot of the key facts and figures on cucumber. Veggie Stats utilises data from the Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES) and the Global Trade Atlas, and is funded by Horticulture Innovation Australia Limited using the National Vegetable Levy and funds from the Australian Government.

It is important to note the data itself provides a broad indication of the

performance of cucumber growers and should be interpreted carefully. The data is presented at the national level and therefore does not account for differences among jurisdictions.

In addition to this, the information provided is not specific to every Australian grower since each enterprise operates differently from one another.

Please note that ABARES and the Australian Bureau of Statistics do not provide financial data or information on annual trends for this commodity.



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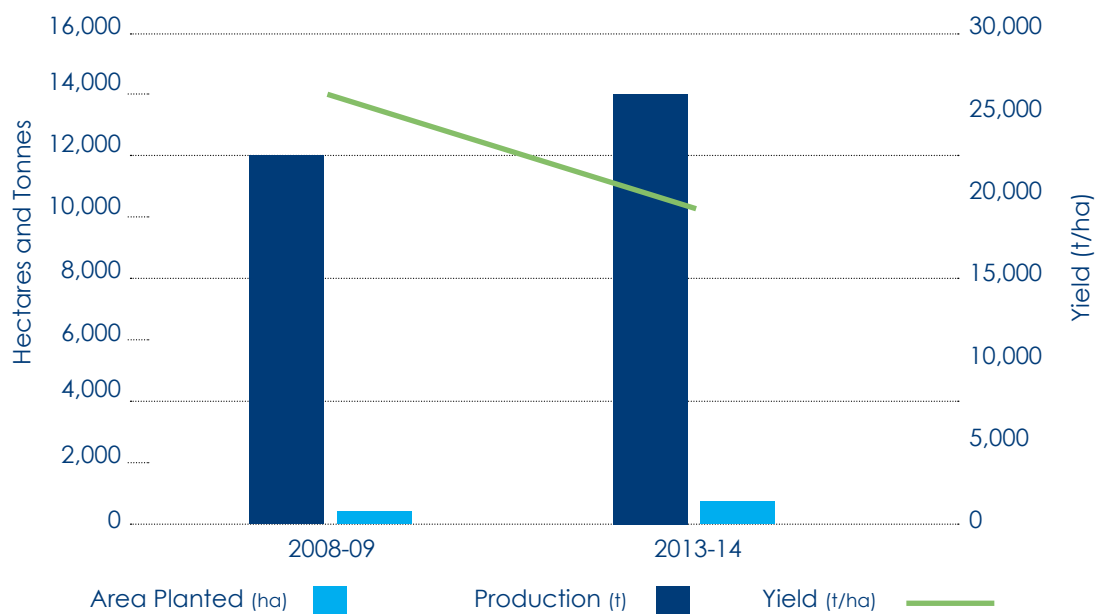


# VEGGIE STATS: CUCUMBER

## Cucumber Production – Key facts and figures

- Over the period 2008-09 to 2013-14, cucumber production has increased by 17.9 per cent.
- During the same period, the number of cucumber growers has declined by 11 per cent to 490 nationally.
- New Zealand is the largest export market for cucumbers, representing \$177,000 in 2014-15.
- New South Wales has the highest gross value of cucumber production of any state in Australia.
- Cucumber exports have grown at an average rate of 12.3 per cent each year since 2009-10.

## Farm-Gate Statistics



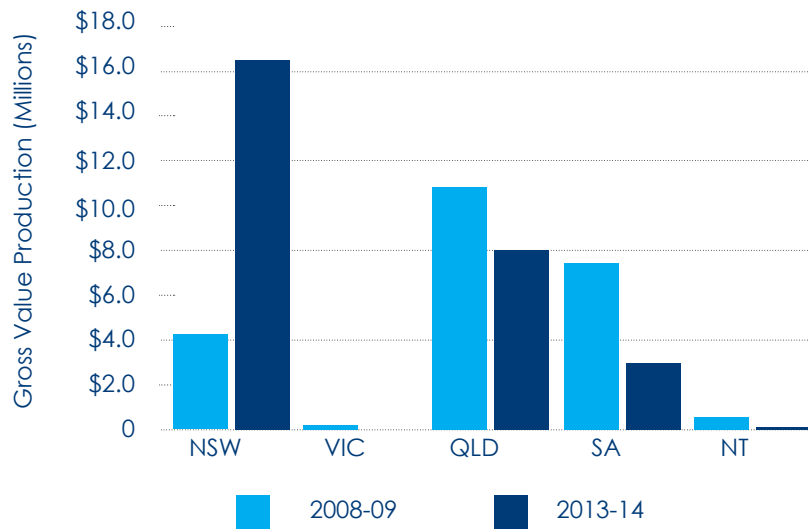
- Cucumber production has increased from 11,943 tonnes in 2008-09 to 14,085 tonnes in 2013-14.
- The area planted has also increased by 276 hectares during the same period.
- Average yield has fallen from 26,156 kg per hectare in 2008-09 to 19,227 kg per hectare in 2013-14.

## Gross Value of Production

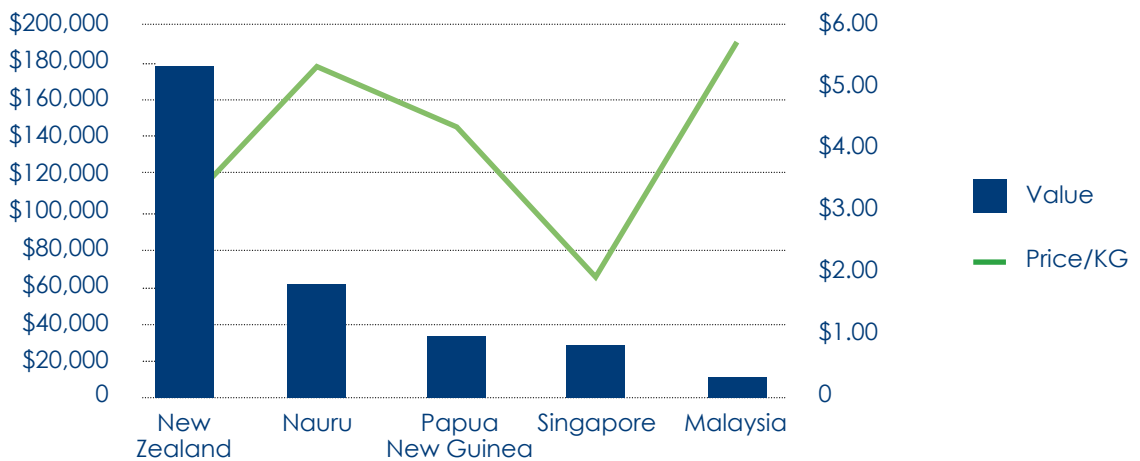
The gross value of cucumber production fell by 61 per cent from 2008-09 to 2013-14.

New South Wales has the largest cucumber industry of all the states, representing 59 per cent of the gross value of production nationally in 2013-14.

The gross value of vegetable production grew by \$12.27 million in 2013-14. This is the largest rate of growth of all the states over that period.



## Key Export Markets 2014-2015

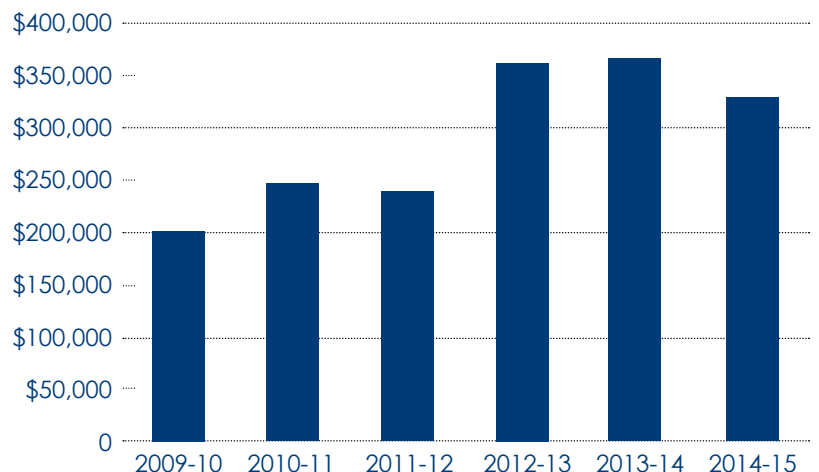


- New Zealand is Australia's largest cucumber export market in 2014-15, accounting for 53.7 per cent of total export value.
- Malaysia received the highest price per kilo for cucumbers at \$5.69 in 2014-15.

## Total Exports

The value of cucumber exports grew by \$126,000 (62 per cent) over the period 2009-10 to 2014-15.

In 2014-15 the value of cucumber exports was estimated to be worth \$329,607.





## Choosing the right irrigation system

THERE IS A RANGE OF IRRIGATION SOLUTIONS AVAILABLE TO AUSTRALIAN VEGETABLE GROWERS THAT WILL ASSIST IN PLANT GROWTH WHILE LOWERING WATER USE. TO MAXIMISE THE BENEFITS OF IRRIGATION, IT IS IMPORTANT FOR GROWERS TO HAVE AN UNDERSTANDING OF THE MOST SUITABLE SYSTEM FOR THEIR NEEDS. WITH OVER 30 YEARS OF EXPERIENCE IN HORTICULTURE IRRIGATION, WATER DYNAMICS CAN HELP GROWERS FIND THE RIGHT IRRIGATION SOLUTION.

Irrigation is a vital component to a vegetable growing operation, as receiving the optimal supply of water to crops can directly affect a grower's yield.

As every farm has different irrigation requirements, it is necessary for growers to take into account their farm's topography, available water resources, crop/livestock type, growing media, lifestyle choices and climatic conditions to optimise their system for water efficiency.

### Unique solutions

An Australian-owned and operated business, Water Dynamics has over 30 years of experience in horticulture irrigation and offers a wide range of irrigation solutions, from product selection and design to installation, service and repair.

The company's irrigation

systems include pivot and linear irrigation, drip irrigation and micro irrigation, as well as domestic irrigation. They also stock products including pumps, pipes, drippers, sprinklers and fittings.

Each solution offers varying benefits to a growing operation. For instance, drip irrigation reduces water usage by delivering water and nutrients directly to the root-zone, minimising evaporation and improving efficiency, while centre pivots, linear or hose irrigators are suitable for broad-acre crops.

Water conservation can be achieved with a stock water system that combines effective storage, reticulation and pumping, while sprinkler irrigation on crops or turf can reduce water waste. Micro irrigation is also an effective solution to precisely water plants in greenhouses, nurseries,

orchards and landscape areas.

### Centre pivots

As Australia's number one T-L distributor since 1988, Water Dynamics has gained extensive experience and knowledge of all facets of T-L Centre Pivots, including selection, design, installation and servicing.

They are the largest T-L stockists in Australia, with over \$1 million of spare parts in stock. A national warehouse has been developed to support local branches in supplying spare parts to T-L customers.

### Further assistance

When choosing an irrigation system, growers can work with Water Dynamics to find the best solution for their specific irrigation needs. Irrigation systems are fitted correctly by trained installers in accordance

with various standards to ensure performance and longevity.

As maintenance on the entire water supply system at the end of the irrigating season is vital in preventing unplanned breakdowns and water loss during the next season, the company can also provide preventative maintenance programs. In the event of an emergency or unwanted water stress on crops, there are irrigation professionals and fully stocked service vehicles available for assistance.

Water Dynamics is a proud partner of AUSVEG and is dedicated to helping the future growth and sustainability of the vegetable and wider horticulture industry.



For more information, visit [waterdynamics.net.au](http://waterdynamics.net.au) or contact the team on 1300 WATER1 (1300 928 371).



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## Planning for a positive future

FROM A SMALL FAMILY-OWNED BUSINESS TO A MAJOR PLAYER IN THE HORTICULTURE INDUSTRY, BARDEN PRODUCE IS ENJOYING A PERIOD OF SIGNIFICANT GROWTH. GENERAL MANAGER (QUEENSLAND) CLEM HODGMAN IS A KEY PLAYER IN THIS EXCITING TIME FOR THE COMPANY. MICHELLE DE'LISLE SPOKE TO CLEM ABOUT HIS GOALS, ROLE AND THE CHALLENGES THE INDUSTRY FACES.

**W**orking in the produce industry is not without its challenges, but Clem Hodgman – Barden Produce General Manager (Queensland) and a former supermarket State Manager – wouldn't have it any other way.

Originally from New Zealand, Clem has been in the industry for the best part of his life. He started his career in supermarkets across the ditch, before moving to Australia in 1981. Clem was keen to specialise in produce, kicking off a fruitful career that has spanned 30 years and counting.

Starting his career in retail, he has worked for nearly every supermarket chain in Australia as well as owning a fruit shop. Clem was working at Coles prior to joining Barden Produce. That was six years ago.

"I have worked at the Rocklea and Sydney Markets as well. At that time, I was a Produce Buyer so I'd basically done everything but grow in the

produce supply chain," he said. "This opportunity completed the circle, something not a lot of people have achieved."

### A learning curve

Clem has learnt a lot so far during his time at Barden Produce. As General Manager (Queensland), he oversees all of the harvesting, processing and marketing of the crops.

Barden Produce has farms in Queensland (Gatton), New South Wales (Peats Ridge and Somersby), and it has a significant holding in Tasmania. Gatton is around 200 acres, Peats Ridge is around 25 acres and in part a hydroponic farm with a number of innovative farming practices taking place. Somersby is approximately 60 acres.

"It's been a real eye-opener to see what actually goes on at the growing end of the business and how much planning is needed," Clem said.

"Consumers take for granted the produce supply but it doesn't happen by accident. It's a very complicated business and lots of planning goes into producing crops at the right quantity and quality.

"Like most proactive farmers, we plant to a program. We don't just stick crops in the ground and hope that they'll sell; we get pre-orders for the crops we sow by getting commitments from our customer-base on volumes before we plan them. That way we're not exposing ourselves to more risk than we need to."

But there is always risk.

### Getting the balance right

Clem admits that despite the amount of planning done, it is still challenging.

"It's tough going for all growers. It's always a fine line between losing money and making money," he said.

"Sometimes you have a good week and sometimes you don't,

and you've got to be in front at the end of the season or it all unravels very quickly."

Like all growers in the horticulture industry, Barden Produce has to navigate through challenges such as weather. The Gatton property was flooded in 2011 and again in 2013, and has recently emerged from the hottest autumn on record. This interfered with the growing pattern of the region's crops – there was an initial glut, followed by a shortage across the board.

This and other factors have led Barden Produce to invest a significant amount of money in infrastructure, including distribution centres, greenhouses and undercover planting, to help protect its future and also from what Clem describes as the greatest enemy – the weather.

### Moving forward with technology

The company recently

Photography by Rowena Dione Photography.



completed the installation of a 1.2 hectare greenhouse in Somersby to grow crops in an environment protected from pests and the weather. The entire greenhouse is computer controlled, and shade cloths can be pulled into place or retracted based on cloud cover on the day.

"We've invested a lot of money in Dutch technology. The Dutch are very clever at growing crops in adverse conditions. We spent some time over there and now we're putting in place that infrastructure in Australia," Clem explained.

"It's a very expensive input cost but if you increase your yield and increase your returns, it's worth it in the long run. We're talking about speciality crops, so I'm not talking about covering broad acre crops by any means. But by investing in technology, we're able to increase our supply levels and our return on investment."

### Industry on a mission

The opportunity to visit vegetable growing operations overseas and witness the technologies and practices used has helped many Australian growers to apply these trends to their farms back home. This has led to greater on-farm efficiencies and ultimately an increase in profitability.

In February, Clem was one of nine Australian vegetable levy payers who participated in the 2016 USA Industry Leadership and Development Mission.

"It is very valuable to appreciate and understand the challenges other communities endure, and also to understand the differences between Australian and overseas growing environments," he said.

"The biggest thing I observed was that in Australia, we have a high labour cost and in America that is significantly lower. With a bigger population and a lower cost per labour hour in America,

they are reliant on manual labour to do work. Whereas in Australia, we're continually looking to reduce labour costs and increase our reliance on machinery and automation.

"Australia, globally, has a very high cost of doing business so we struggle to compete internationally unless we reduce our input costs. It was a stark reminder of the differences in that area of business."

### Revelling in the unknown

Despite the difficulties, Clem enjoys the variety of challenges thrown at him in his role.

"It's crazy – every day is different. Every day is a new challenge. I don't wake up on a single day and know what's waiting for me," Clem said.

"I can have an idea but there's always that surprise phone call about a crop shortage or somebody wanting more demand, so we're juggling

supply and demand forever – every day of the year."

However, Clem is basking in the company growth.

"We have seen significant growth over the last five years and expect that to continue for the next five years," he said.

"I'm very happy here and very happy to continue to be involved in the horticulture industry. Basically, being part of helping to make it a success."



The 2016 USA Industry Leadership and Development Mission has been funded by Horticulture Innovation Australia Limited using the National Vegetable Levy and funds from the Australian Government.

Project Number: VG15702

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## Growers gain an insight into the Australian export industry

VEGETABLE GROWERS WERE PROVIDED WITH A VALUABLE INSIGHT INTO THE AUSTRALIAN EXPORT INDUSTRY WHEN THE 2016 PRACTICALITIES FOR EXPORTING VEGETABLES SYMPOSIUM WAS HELD ON 26 JUNE. THEY LEARNT ABOUT PREPARATION, REGISTRATION AND MARKET ACCESS, WITH A NUMBER OF SPEAKERS LENDING THEIR ADVICE AND OUTLINING THE BENEFITS THAT CAN BE GAINED FROM EXPORTING.

The 2016 Practicalities for Exporting Vegetables Symposium was held on Sunday 26 June directly following the National Horticulture Convention at RACV Royal Pines on the Gold Coast. With many growers expressing a desire to commence exporting or build on their current export capabilities, the line-up of expert speakers provided practical information to assist Australian vegetable growers in supplying fresh, clean and high quality produce to the world.

The speaker program comprised of presentations from across the export supply chain, including representatives from Austrade and the Federal Government, as well as vegetable growers who shared their experiences of the export process. The informative presentations enabled those in attendance to develop their

practical skills to assist in exporting fresh produce.

### Export preparation

Darren Wilson, Trade Adviser with Austrade in its food and agribusiness trade team, kicked off the day with a presentation outlining Austrade's services and how it can help growers prepare to be ready for exporting. With Mr Wilson's expertise and experience with Austrade coming to the fore, attendees were able to take some vital lessons away from his presentation.

Karina Keast from the Department of Agriculture and Water Resources delved into the topic of export registered establishments. Ms Keast explained the process in registering an establishment, as well as authorised officers and how to set yourself up

to become one. Ms Keast was able to use her wealth of knowledge gained from her time in the department to ensure the audience was well aware of the necessary requirements prior to entering the export market.

Following the morning tea break, keynote speaker and Chair of the Export Council of Australia, Dianne Tipping, took to the stage. Ms Tipping provided growers with a very practical overview of what needs to be considered before you begin to export, guiding growers through a range of export considerations.

### On the road to export

Following on from Ms Tipping's presentation was Steritech Queensland General Manager Glenn Robertson, who gave the audience an overview of treatment considerations for

fresh produce. Mr Robertson also outlined the benefits of irradiation as a treatment pathway and the possibilities for this treatment option moving forward.

Oliver & Doam Managing Director Peter Barnard gave a passionate presentation, drawing close comparisons with the Australian lamb industry and the opportunities available for the vegetable industry. As a key plank in the highly successful market development of lamb to international markets, Mr Barnard discussed the key areas of market knowledge, market access, business development and branding.

The Level Playing Field CEO Mark Mackay also provided an interesting – and at times, humorous – presentation on considerations for packaging your product successfully for international markets.



While often overlooked in its importance, Mr Mackay demonstrated that if you package your product effectively, your brand will be remembered and trusted as a quality product, which had a high impact on the audience.

### A grower's perspective

Momack Produce grower James Terry, who is also a Nuffield Scholar, then gave the audience a grower's perspective of exporting, sharing his experiences since commencing the Nuffield Scholarship 18 months ago. This provided growers with many lessons and highlighted the importance of planning ahead and ensuring you are

correctly set up to export.

The final presentation of the day brought together a grower panel comprising 4 Ways Fresh General Manager Kingsley Songer, Arahura Farms Marketing Manager Sean Croft and James Terry, who all have different levels of experience in exporting. This provided the audience with the opportunity to ask any questions they had on their mind and learn from their peers.

At the completion of the Symposium, attendees walked away with a greater knowledge of what is required to start exporting, as well as many useful contacts and information that can be used as they commence or expand their export activities.



Export Council of Australia Chair Dianne Tipping.



Steritech Queensland General Manager Glenn Robertson.



A full project report will be made available on the InfoVeg website: [ausveg.com.au/infoveg](http://ausveg.com.au/infoveg).

The 2016 Practicalities for Exporting Vegetables Symposium has been funded by Horticulture Innovation Australia using the National Vegetable Levy and funds from the Australian Government.

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Mediterranean fruit fly. Image courtesy of Scott Bauer, USDA Agricultural Research Service, Bugwood.org.



Queensland fruit fly. Image courtesy of Natasha Wright, Cook's Pest Control, Bugwood.org.

## The exotic fruit fly edition

THIS EDITION OF *THE FRONT LINE* IS DEDICATED TO EXOTIC FRUIT FLIES. WE INVESTIGATE PREPAREDNESS MEASURES IN NORTHERN AUSTRALIA TO REDUCE FRUIT FLY POPULATIONS IN THE TORRES STRAIT, AND THE POSSIBLE IMPACTS THAT AN INCURSION OF ORIENTAL FRUIT FLY COULD HAVE ON THE VEGETABLE INDUSTRY.

Fruit flies are a significant plant pest, affecting the agriculture industry on a global scale. They are highly mobile and if left uncontrolled, can cause whole crop losses as well as dramatically reduce market access and export opportunities.

The negative impact of fruit fly centres around two issues. Firstly, direct crop loss is caused by maggot feeding and the introduction of decay organisms. The second problem is linked with trade; fruit flies are considered by all trading partners as major quarantine pests and their presence in production areas can lead to significant market access loss.

Of the exotic fruit fly species identified around the world, the Oriental fruit fly (*Bactrocera dorsalis*), is the most destructive exotic fruit fly pest identified to date. Australia has experienced one incursion of this fly, which was in Cairns in 1995. At the time, eradication activities for the outbreak cost around \$35 million. This was coupled with a further \$100 million in increased production costs,

reduced productivity and market access closure.

Ultimately, the eradication program was successful, however it provided government and industry with a taste of the extreme ramifications of an Oriental fruit fly outbreak in Australian production areas.

### Threat from the north

The Torres Strait is a major risk pathway for movement of plant pests. Annual migrations of the Oriental fruit fly, as well as Melon fly and New Guinea fruit fly from Papua New Guinea to the Torres Strait island group, just north of Queensland, are kept in check by the Torres Strait Fruit Fly Strategy (the Strategy). If exotic fruit fly did enter, they could rapidly spread through nearly all Australian production areas.

All three Torres Strait fruit fly species (Melon fly, Oriental fruit fly and New Guinea fruit fly) have the potential to impact vegetable crops, particularly solanaceae, curcubitaceae and fabaceae. The Melon

### Example scenario: Exotic fruit flies reach Australian growing regions

In this scenario, the industry could expect quarantine of growing regions and a possible eradication/containment strategy on the mainland, which would be cost-shared between industry and government under the Emergency Plant Pest Response Deed.

Growers of non-host crops in any quarantine regions may need to take additional measures to reduce transmission of flies to other regions/interstate. If the incursion became a management strategy (no eradication), we would expect an increased cost of production for growers of host crops. There may be impacts on trade, including market access until regions/states could provide proof of freedom from the pest to international trading partners.

As a global example, export of horticultural produce from African countries where *B. dorsalis* has been reported has been severely hampered by a Federal Order issued by the United States, banning importation of several fruit and vegetable commodities from these countries into the United States.

Trade barriers and costly surveillance, control and eradication programs are realistic consequences of an exotic fruit fly incursion in Australian growing regions, emphasising the need for continuation of preparedness initiatives, such as the Torres Strait Fruit Fly Strategy.

Oriental fruit fly. Image courtesy of Florida Division of Plant Industry, Florida Department of Agriculture and Consumer Services, Bugwood.org.



fruit fly has had a particularly severe impact on vegetable crops overseas, with the extent of production losses varying between 30-100 per cent, depending on the cucurbit species and the season.

- An eradication program commencing at the start of the annual monsoon season using a range of eradication methods such as field bait sprays and lure-and-kill techniques.

### The strategy

The Strategy commenced in 1996 following the incursion of the Oriental fruit fly in Cairns. The strategy plays a major role in detecting the seasonal incursion of fruit flies in the Torres Strait and carrying out annual eradication measures.

Until this year, costs of the eradication in the Strategy have been shared between state governments and the federal government. Going forward, the Strategy will be cost-shared between all governments and affected industries, including the vegetable industry.

The Strategy is managed by the Northern Australian Quarantine Strategy (NAQS) and Queensland Department of Agriculture and Fisheries.

Elements of the Strategy include:

- A monitoring program consisting of trapping and rearing of flies from host fruit to support the early detection of target exotic fruit fly species.

### More to come in the next edition

While Australia has a plethora of fruit flies, of the 90 fruit-infesting species, less than 10 have been recorded from commercial fruit. Australia has two serious fruit fly pests: the native Queensland fruit fly (*Bactrocera tryoni*), found in most non-arid areas of the Northern Territory, Queensland, New South Wales and Victoria; and the introduced Mediterranean fruit fly (*Ceratitis capitata*) established in Western Australia.

In the next edition of *The Front Line*, we will take a look at the current Australian initiatives for management of endemic fruit fly species.



### Quality diagnostics crucial during an incursion

Plant pest diagnostics is a serious business, as an incorrect diagnosis can result in property/regional quarantine and reduced market access.

Possible harmful consequences include financial costs for growers who are quarantined, impact on trade access and reputational impacts on those responsible for testing. The recent issues surrounding the testing for Panama Tropical Race 4 disease in Queensland are a good example of this reality.

On the fruit fly front, it has recently been found that four species – *B. dorsalis*, *B. papayae*, *B. philippinensis* and *B. invadens* – are the same species. According to Schutze et al. (Systematic Entomology, 2014), they are now identified as *B. dorsalis* – the Oriental fruit fly.

Accurate diagnostics support a level of certainty in confirming any incursion of exotic fruit flies on Australian soil, as well as speeding up eradication efforts and reducing the potential for

fruit fly spread.

In 2015-16, Plant Health Australia managed a major revision of the *Australian Handbook for the Identification of Fruit Flies*.

The handbook integrates all of the techniques currently used in Australia for the identification of 60 species of fruit flies using both taxonomy and molecular biology techniques.

The handbook has been compiled as a working handbook for diagnosticians. Version 2.1 can be found at [planthealthaustralia.com.au](http://planthealthaustralia.com.au).



### Biosecurity Act 2015 (Federal) now in force

On 16 June 2016, the Biosecurity Act replaced the Quarantine Act as the primary piece of federal biosecurity legislation in Australia.

The Department of Agriculture and Water Resources website has information on the new legislation at [agriculture.gov.au](http://agriculture.gov.au).

If you have any questions regarding how to operate under the Biosecurity Act, please contact the Biosecurity Implementation Branch or call 1800 040 629.

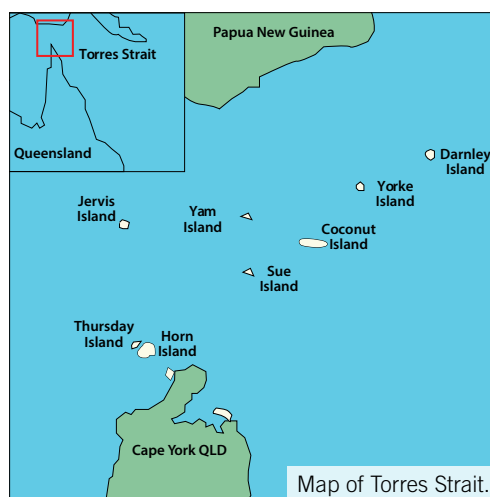


Any unusual plant pest should be reported immediately to the relevant state or territory agriculture agency through the Exotic Plant Pest Hotline (1800 084 881).

For further information, see the farm biosecurity website at [farmbiosecurity.com.au](http://farmbiosecurity.com.au), or contact AUSVEG National Manager – Scientific Affairs Dr Jessica Lye on 03 9882 0277 or email [jessica.lye@ausveg.com.au](mailto:jessica.lye@ausveg.com.au).

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## QA harmonisation to benefit growers

Major retailers and the horticulture industry have agreed to streamline fresh produce safety requirements across the supply chain.

Through the Hort Innovation-funded Harmonised Australian Retailer Produce Scheme (HARPS), business costs for growers will be reduced, as will the complexity of food safety audits.

Announced by the Assistant Minister for Agriculture Senator Anne Ruston in May, the move

will see produce safety audit requirements harmonised across key supermarket retailers. Hort Innovation Chief Executive Officer John Lloyd said it will reduce the overall number of audit elements required to supply the nation's grocery retailers from more than 200 combined to around 60.

### Major supermarkets on board

ALDI, Coles, Costco, Metcash

(IGA) and Woolworths have all agreed to the scheme, which will be launched in pilot form in the coming months, with the full standardised food safety initiative expected to begin by the end of the year.

Information on this scheme will roll out over the coming months, but all major retailers

will require a Global Food Safety Initiative (GFSI) recognised standard.

As well as this, growers should be aware of new codes of practice for Freshcare FSQ4 and ENV 3. These codes will be relevant for audits from January 2017 and ensure compliance with GFSI.



For more information, contact AUSVEG Environment Coordinator Andrew Shaw on 08 8221 5220 or [andrew.shaw@ausveg.com.au](mailto:andrew.shaw@ausveg.com.au).



## Reducing greenhouse gas emissions through improved nitrogen management

The Northern Territory Department of Primary Industry and Fisheries (DPIF) is conducting research on nitrogen fertiliser management strategies for emerging plant industries, which also help to reduce greenhouse gas emissions. The initiative is part of the Northern Territory Government's Action on the Ground project.

Through better understanding and management of inorganic nitrogen in key crops in northern Australia, this project aims to reduce soil nitrous oxide and methane emissions and

prioritise the release of carbon stored in the soil by use of cover crops.

It is the second project following on from the key findings of an initial project that focused on reducing greenhouse gas emissions through improved nitrogen management on Northern Territory farms.

### Project rundown

This second project runs until 2017 and aims to trial and demonstrate on-farm practices

and techniques. Nitrogen movement is tracked during crop rotations in different forms while looking at the best way to trap nitrogen and minimise nitrous oxide emissions, especially during the wet season.

Results from the first project showed that soil moisture and soil cultivation events are major drivers of greenhouse

gas emissions from soils, while cover crops can maintain organic matter with minimal mitigating effect on nitrogen loss in northern Australian farms.

The current project includes investigating the role of enhanced efficiency fertilisers, smarter application timing and whether this can save growers the costs of lost nitrogen.



For more information on the Action on the Ground project visit [nt.gov.au](http://nt.gov.au) or contact AUSVEG Environment Coordinator Andrew Shaw on 08 8221 5220 or [andrew.shaw@ausveg.com.au](mailto:andrew.shaw@ausveg.com.au).



## Using water to combat difficult growing conditions

THE INCREASING DEMAND FOR FOOD PLACES A HIGH PRIORITY ON SUSTAINABLE FARMING PRACTICES. *VEGETABLES AUSTRALIA* SPOKE WITH JAN LUNDQVIST, SENIOR SCIENTIFIC ADVISER AT THE STOCKHOLM INTERNATIONAL WATER INSTITUTE (SIWI) ABOUT HOW TO MAKE THE MOST OF AVAILABLE WATER RESOURCES.

As the global population expands and farmers face extreme fluctuations in growing conditions, fresh water continues to be a precious commodity in agriculture. While the Global Agriculture Report of 2008 found that the world's available water will be enough for a growing population, this will only be the case if we use it efficiently and make better use of rainwater and soil moisture.

"Almost three quarters of our freshwater resources today are used in agriculture," Stockholm International Water Institute (SIWI) Senior Scientific Adviser Jan Lundqvist said.

"A good 60 per cent (of global crop cultivation) comes from rain-fed agriculture where the need for water is covered exclusively by precipitation."

In order to harvest the same amount of agricultural produce in 2080 as today, 30 per cent more water will be needed in Africa and 70 per cent more in south-east Asia, given a projected rise in temperature of four degrees Celsius.

In Australia, the issue of prolonged periods of drought only exacerbates the need

for sustainable water use. The sustainable use of water will play a key part in the development of the Australian agricultural sector.

### Intelligent water usage

Green water is the water that is available to plants through the soil, including soil holding capacity and rainfall.

"The amount of 'green water' is much bigger than the volume of water supplied for irrigation from reservoirs and pumped from the ground," Professor Lundqvist said.

"Irrigation water – so-called 'blue water' – can be allocated to specific locations at desired times. With global warming, precipitation patterns will be more stochastic, so there will be increased uncertainty of timing, amount of rainfall and soil moisture. A better use of rainfall is crucial but it requires arrangements to capture and retain sporadic rainfall as soil moisture.

"In irrigated systems, it is crucial to have a good relationship and mutual trust between farmers and people

who control water provision. In rain-fed systems, the challenges are different; it is more of a combined soil, landscape and water management task because land management is also rain water management.

"Rainwater harvesting methods include building ponds and tanks, barriers to reduce surface runoff, mulching for enhanced water retention capacity and low or no till agriculture. So growing the 'right' crops is essential."

### Tolerant crop varieties

The water absorption capacity and ideal cultivation density of a crop relate to how efficiently water stored in the soil can be used, with a greater water retention capacity ensuring that a crop will survive a period of drought.

Using the 'right' crop variety can go a long way to tackling difficult growing conditions in a more efficient way. For example, using temperate crops (such as brassicas) in the winter months and opportunistic crops in the summer can mean that crops are more likely to thrive.

### Protecting resources from pollution

Water is not just used in crop irrigation. Cleaning facilities also produce wastewater that could be recycled. For example, Bayer has developed a biological system for sustainable disposal of crop protection effluent called Phytobac®. The system uses a waterproof pit filled with substrate and straw which provides a habitat for the microorganisms to degrade crop protection residues.

The clean washwater can then return to the water cycle, having eliminated potential pollution and making more water available for use.



For more information, please visit [siwi.org](http://siwi.org).

The EnviroVeg Program has been funded by Horticulture Innovation Australia Limited using the National Vegetable Levy and funds from the Australian Government.

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## Educating, connecting and growing

CHRIS MCKENNA IS A THIRD GENERATION VEGETABLE GROWER, A MEMBER OF THE TASMANIAN FARMERS AND GRAZIERS ASSOCIATION'S VEGETABLE COUNCIL AND WEEDS STANDING COMMITTEE, AN ENVIROVEG GOLD MEMBER AND A PASSIONATE ADVOCATE FOR COMMUNITY EDUCATION. HE SHARES HIS THOUGHTS ON THE INDUSTRY WITH *VEGETABLES AUSTRALIA*.

On the sloped hills of Penguin and Gawler in north-west Tasmania, Chris McKenna manages a mixed production farm. Having grown up working on the farm with his father and uncles, Chris knows the region well.

So well, in fact, that the steep hills do not deter production.

"Working on steep slopes means you need to have good management skills, but once you have the experience you can account for the terrain," he says.

"It's not something you can straight out teach; you need your wits about you to pay attention."

### A steep challenge

A lot of the equipment and techniques Chris uses are different to other farms because of the slopes he works on. Three and a half metre long rotary hoes and varied sized irrigation rigs are used for this reason.

Irrigation techniques can make or break a grower and Chris uses modified linear and pivoting systems that have not been designed for hills.

"The biggest thing is how we manage our spray and our irrigation, which have the biggest effect on making or losing money. The change from going from a 12 metre to a 28 metre spray rig can make a big difference; you have to weigh up the cost-benefit analysis."

During the most recent vegetable season, Chris decided to reduce the number of crops grown on the property and, as a result, managed to lessen the percentage of his crops going to waste.

"This season we have had a major thin-out in terms of our crops grown, due to the cost of production versus return, and where a lot of growers struggled through this season (with carrots), we fared well because we had less split carrots."

While it is difficult to pinpoint

the exact reason for this season's good looking carrots, we can pinpoint Chris's clever growing practices. As an EnviroVeg Gold member, he uses sustainable best practice techniques on farm.

"We use cover cropping to get the green organic matter back into the ground after harvest. We always keep a good watch on our soil pH and run ripper mulch in the paddock and a ripper line through the paddocks on GPS to ensure that everyone knows exactly what path to follow. This is the sort of controlled traffic technique that we use because of the hilly ground," he says.

### Education: A long-term investment

Chris is very passionate about the long-term development of the vegetable industry, and it's a passion he brings to the table as a member of the Tasmanian Farmers and Graziers

Association's (TFGA) Vegetable Council. As part of this role, Chris disseminates education to growers but believes it should start with the younger generation.

"I am a big believer that our education needs to start at school. I spoke to school kids about the importance of buying Australian produce and the kids really absorbed the information. We found that all people in the class were somehow affected by the agriculture industry. Even in the big cities, agriculture and Australian made products are what keeps everyone employed."

After his initial visit to the school, Chris returned and found out he was a wanted man.

"The teacher told me I was in trouble. I said 'Oh, what have I done?' It turns out that the parents were complaining because their kids were making them take extra time when shopping as they were looking



Photography by Belle Young.



on the labels and packets, and if it wasn't Australian made then they weren't allowed to buy it," he says.

"It just goes to show that we can educate our kids to educate our adults. We have to get this across to the ones that are going to be affected by it in the future, and that's our children."

While educating children is a high priority, consumer support for Australian produce is the driving force for this change in awareness.

"People understand that you cannot sustain purchasing at the same prices from 10-20 years ago, and they also need to recognise that farmers are the same. At the moment, we are seeing more and more farmers moving out of the industry and more foreign investment," he says.

"If people don't like it they have got to vote with their feet and buy Australian products and be prepared to pay that little bit extra. At the end of the

day, it is like anything else – if we don't look after ourselves, no one else is going to."

### Connecting the dots

As well as advocating for Australian grown products, Chris furthers the case for more education in the broader community, due to the cross-industry effect of the agricultural industry.

"For example, the dairy industry has taken a major hit at the moment and that is affecting cropping farmers, and the poppy industry has taken a hit as well, which will affect beef cattle growers. That is what people outside the industry don't understand: one little thing can take it out of all of agriculture," Chris explains.

"It's like a ripple in the lake; it goes across the whole lake, regardless of where you are in the industry and even un-associated industries within the community. Agriculture

is such an important industry to Australia that regardless of where you are and what you do, it strengthens communities."

By looking at the bigger picture and educating those around him, Chris envisions agriculture in Australia becoming more sustainable in the future. This stands to benefit not only those involved in agriculture, but the broader Australian communities.

"The perception in Australia is that products need to be perfect. Overseas that is not an issue; they have no dramas selling wonky carrots. In Australia, we are very wasteful and yet we still import things from another country that do not have the same level of quality assurance that we have here. We have got to be a bit smarter about being a unified agriculture industry to compete with the overseas market," he explains.

"The question is, why are we doing that, and obviously our education is lacking. They still

taste the same and come out of the same paddock."

Chris adds that it is all about building the Australian agriculture sector as a whole, and not wasting resources.

"Environmentally we have got to get smarter at how we do things. Resources are wasted as the norm in our culture and this is where we need to be better as an industry, by choosing environmental issues and things that are renewable."



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# Minor Use Awareness Program: Latest news

THE 2016 MINOR USE SYMPOSIUM ATTRACTED A WIDE RANGE OF GROWERS AND INDUSTRY MEMBERS TO RACV ROYAL PINES ON THE GOLD COAST ON SATURDAY 25 JUNE. HELD IN CONJUNCTION WITH THE 2016 NATIONAL HORTICULTURE CONVENTION, THE SYMPOSIUM GAVE ATTENDEES AN OVERVIEW OF THE IMPORTANCE OF MINOR USE IN THE VEGETABLE INDUSTRY.

The 2016 Minor Use Symposium was attended by 41 growers and industry representatives, with presentations facilitated by former Industry Advisory Committee Chair Jeff McSpedden.

The presentations at the Symposium aimed to complement each other, with earlier speakers giving a big picture overview of minor use and following speakers delving into specific aspects relating to the provision of minor use permits.

AUSVEG Minor Use and Agronomy Coordinator Scott Kwasny explained the Minor Use Program and his role in working with vegetable growers to better understand the role of minor use in the vegetable industry. Meanwhile, Australian Pesticides and Veterinary Medicines Authority (APVMA) Executive Director – Registration Management and Evaluation Alan Norden spoke about the APVMA's global initiatives and use of international data in minor use decisions.

Peracto Residue Manager Bronwyn Haller described her work in conducting minor use trials and the practicalities involved in completing a minor use permit, while E.E. Muir and Sons Agronomist Glen Geitz discussed the important considerations of chemical use and the role of soft chemistry.

Researcher and Cesar Senior Consultant – Sustainable Agriculture Dr Siobhan de Little spoke on Green peach aphid resistance and management, which is a timely topic for many

vegetable growers. Finally, Queensland Department of Agriculture and Fisheries Senior Entomologist Hugh Brier described the recent arrival of the Vegetable leafminer into northern Queensland.

A question and answer session involving all speakers was then held to close out the Symposium.

Attendee feedback was highly positive, with many citing the relevance of chosen topics and the clearness and style of presentations.

## Get involved!

To understand the needs of the industry and the needs of different groups within the industry, communication and involvement are key. The Minor Use Prioritisation Strategy needs input and involvement to better represent vegetable growers and the industry as a whole. To be involved, AUSVEG must understand what the on-farm needs are.

By joining the Minor Use Database, growers assist and play an integral role in improving access to agrichemicals in Australia. The Database is used to communicate and gather responses from growers and stakeholders on issues relating to chemical access.

To join the Database, simply request a Database form from the Minor Use and Agronomy Coordinator by emailing [minoruse@ausveg.com.au](mailto:minoruse@ausveg.com.au).

All details on the Database are kept confidential.

## On-label changes

### Nufarm Digger label extension

The minor use permits PER14245 and PER14812 for use of Difenconazole products (250g/L and 400g/L) to control Leaf spot in beetroot and Cercospora leaf spot and Septoria spots in celery will be surrendered.

There is no cause for alarm as Nufarm has extended its label for Digger to include these uses. This ensures that beetroot and celery growers throughout Australia can now use Digger as per the spray regime described on label.

### Syngenta CHES label extension

The minor use permits PER14341 and PER14892 for use of CHES (Pymetrozine) have had several of the approved uses extended to label.

The label extension covers use on celery to control aphids from PER14341 and all uses except for the use on snow and sugar snap peas to control cowpea aphid, pea aphid and potato aphid from PER14892.

As a result of this label extension, PER14341 will be withdrawn and PER14892 will be retained only for the use on snow and sugar snap peas to control cowpea aphid, pea aphid and potato aphid.

Please update your records with the new labels accordingly.



For more information, please contact AUSVEG Minor Use and Agronomy Coordinator Scott Kwasny on (03) 9882 0277, email [minoruse@ausveg.com.au](mailto:minoruse@ausveg.com.au) or visit [ausveg.com.au/minoruse](http://ausveg.com.au/minoruse).

The Minor Use Awareness Program has been funded by Horticulture Innovation Australia Limited using the National Vegetable Levy and funds from the Australian Government.

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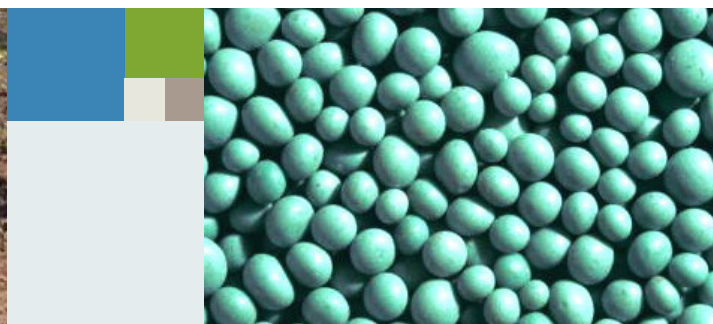
Permit Number	Crop	Pesticide Group	Active	Pest/Disease/Target weed	Date Issued	Expiry Date	Permit Holder	States
PER13567 Version 3	Capsicums and tomatoes (field crops only)	Insecticide	Bifenthrin	Queensland fruit fly and Lesser Queensland fruit fly	7-Dec-12	31-May-21	Growcom	Bowen and Gumlu growing regions of Qld
PER81244	Brassica leafy vegetables, chicory, coriander, endive, parsley, radicchio, silverbeet, spinach, swede and turnip	Herbicide	Fluazifop-P-Butyl	Grass weeds	1-Jul-16	30-Jun-19	Growcom	All states (except VIC)
PER13367 Version 2	Celeriac and leeks	Herbicide	Linuron	Control of grass and broadleaf weeds	31-May-13	30-Apr-21	Growcom	Qld, NSW, SA, WA and Tas
PER12447 Version 2	Peppers (capsicum and chilli), cucumber and lettuce (head and leafy)	Fungicide	Fenhexamid	Grey mould or Botrytis rot	30-Sep-13	31-May-21	Growcom	All states (except VIC)
PER13036 Version 2	Fennel	Fungicide	Chlorothalonil	Downy mildew and Purple blotch	21-Sep-11	31-Jul-21	Growcom	All states (except VIC)
PER8930 Version 2	Eggplant, peppers (including chillies, capsicum and paprika), shallots and spring onions.	Insecticide	Phorate	Aphids, jassids, mites, thrips and onion maggot	14-Aug-11	31-Jul-19	Growcom	All states (except VIC)
PER82551	Spring onions, shallots, cauliflower, leeks, coriander and parsley	Insecticide	Diazinon	Onion maggot, thrips (excluding Western Flower thrips) and Onion fly	20-May-16	31-Mar-21	Growcom	All states (except VIC)
PER13035 Version 2	Radish	Herbicide	Clethodim	Control of grasses	27-Sep-11	30-Sep-21	Growcom	All states (except VIC)

All efforts have been made to provide the most current, complete and accurate information on these permits, however we recommend that you confirm the details of these permits at the following APVMA website: [apvma.gov.au/permits/search.php](http://apvma.gov.au/permits/search.php)



Knowledge grows

Confidence in every prill...



## YaraMila™

A complete line of compound NPK products containing balanced nutrients in every prill.

- Balanced nutrition in every prill supports better nutrient uptake and plant growth.
- With YaraMila™ true uniform compound, product segregation of individual nutrients is not possible
- Excellent handling and spreading characteristics for uniform application.
- Rapid nutrient release to satisfy the requirements of fast growing, high yielding crops.





L-R: Sai Tong Foo from Euro Atlantic Malaysia and AUSVEG National Manager – Export Development Michael Coote.



Photography by Andrew Beveridge.

2016 Fresh Produce Display.

## Export-ready growers form key contacts during 2016 Reverse Trade Mission



THE 2016 REVERSE TRADE MISSION WAS ONCE AGAIN A TREMENDOUS SUCCESS, PROVIDING TANGIBLE OPPORTUNITIES TO INCREASE AUSTRALIAN VEGETABLE EXPORTS TO ASIA AND THE MIDDLE EAST. THE MISSION WAS HELD IN CONJUNCTION WITH THE 2016 NATIONAL HORTICULTURE CONVENTION AND RAN FROM 19-26 JUNE.

**M**ore than 40 international buyers from Japan, Malaysia, Hong Kong, Singapore, Thailand and the United Arab Emirates (UAE) gained a valuable insight into the Australian vegetable industry during the 2016 Reverse Trade Mission.

Delegates representing international supermarket chains and large fresh produce importers from across Asia and the Middle East enjoyed the opportunity to engage with growers and sample the high quality produce on offer. Additionally, Austrade representatives from Malaysia and Thailand joined the mission and will undoubtedly be better positioned to represent grower interest in-market.

### Industry collaboration

During the week, the Reverse Trade Mission delegation toured growing operations in South Australia, Victoria and Queensland. These were well-received by the international buyers, as it allowed them to see first-hand the scale and quality of produce from Australia's vegetable farms.

Delegates also toured the SA

Produce Market in Adelaide, where they were treated to a cooking demonstration highlighting the versatility of Australian vegetables by Market Ambassador Callum Hann.

The Reverse Trade Mission also toured the brand new Melbourne Market facility in Epping, Victoria. Following a guided tour with Melbourne Market Authority Chair and CEO Stephen McArthur, the delegates enjoyed breakfast with a number of the traders operating out of the market.

As always, farm visits in South Australia, Victoria and Queensland proved to be the most popular and productive part of the Reverse Trade Mission. These visits provided an exceptional opportunity for growers to not only highlight the quality of their produce, but also the scale and quality of Australian growing practices.

### Produce on display

The mission culminated at the 2016 National Horticulture Convention at RACV Royal Pines, which was held between 23-25 June. On Friday 24 June, delegates were treated to a Fresh Produce Display

showcasing the finest fresh vegetables from a wide range of horticultural growing operations.

The Fresh Produce Display provided an opportunity for buyers and growers to hold one-on-one discussions regarding potential business opportunities and the possibility of enhancing trading relationships.

Early feedback suggests that the participating growers received valuable export leads, indicating that many of the buyers who participated in the 2016 Reverse Trade Mission are likely to increase the amount of Australian vegetables they currently import.

Over 60 per cent of delegates indicated that they will import over AUD\$100,000 more of Australian fresh vegetables as a result of their participation in the 2016 Reverse Trade Mission. Additionally, 11 delegates, or 37 per cent of participants, estimate they will import over AUD\$500,000 in additional sales of Australian vegetables as a result of the contacts made during the mission. This highlights the significant opportunities that exist for export-ready Australian producers to capitalise on the networks and relationships

built during the event.

### Where to now?

The Australian vegetable industry will be exhibiting at Asia Fruit Logistica, the premier trade show for fresh produce in the Asia Pacific region, which will be held in Hong Kong from 7-9 September 2016.

The 2016 Asia Fruit Logistica trade show is expected to attract significant involvement from across Australian horticulture. The industry's representation at the event also includes funded positions for vegetable growers to display produce and establish new business contacts.



For more information on the Reverse Trade Mission and Asia Fruit Logistica, contact AUSVEG on 03 9882 0277 or email [info@ausveg.com.au](mailto:info@ausveg.com.au).

The Reverse Trade Mission has been funded by Horticulture Innovation Australia Limited using the National Vegetable Levy and funds from the Australian Government.

Project Number: VG13097

**Horticulture  
Innovation  
Australia**

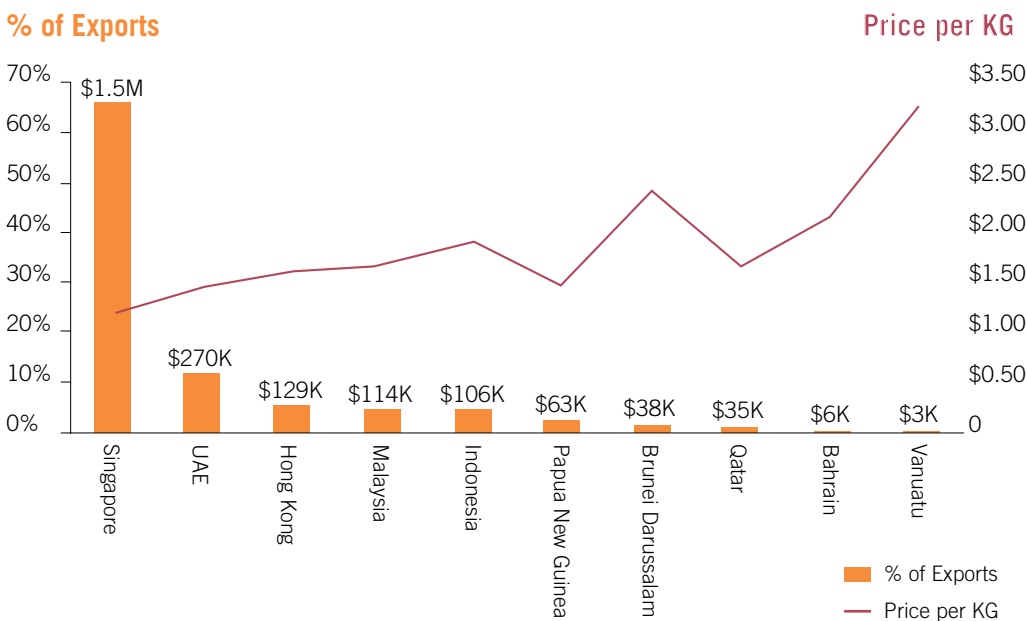
# Export commodity snapshot: Pumpkin, squash and gourd



In 2014-15 Australia exported \$2.2 million of pumpkin, squash and gourd. The key destination for Australian pumpkin, squash and gourd is Singapore, with this market receiving by value 66 per cent of exports in 2014-15.

Pumpkin, squash and gourd exports have increased by 68 per cent over the past five years. Significant growth in exports can be seen across several markets, with the Singapore and United Arab Emirates markets increasing in value by 25 and 10 per cent respectively over the last financial year.

In 2014-15, on average, Australian pumpkin, squash and gourd was valued at \$1.32kg. The price per kilogram of pumpkin, squash and gourd has remained consistent over the past four years. Within the top 10 pumpkin, squash and gourd export markets by value, Vanuatu demanded the highest price for pumpkin, squash and gourd with the average price being \$3.27kg.



## Australia's pumpkin, squash and gourd exports by country of destination Fresh or Chilled (\$AUD)

Rank	Country	2011-12	2012-13	2013-14	2014-15
	World	727,954	2,055,842	2,026,315	2,281,559
1	Singapore	415,654	1,112,133	1,123,384	1,503,999
2	United Arab Emirates	89,892	212,261	248,618	270,427
3	Hong Kong	85,656	152,255	109,148	129,961
4	Malaysia	39,428	105,433	85,175	106,801
5	Indonesia	42,808	289,101	269,107	63,956
6	Papua New Guinea	42,808	289,101	269,107	63,956
7	Brunei Darussalam	7,349	11,201	12,306	38,550
8	Qatar	885	13,764	31,324	35,090
9	Bahrain	-	-	3,283	6,450
10	Vanuatu	-	-	1,200	2,940



The Vegetable Industry Market Access and Development Program has been funded by Horticulture Innovation Australia Limited using the National Vegetable Levy and funds from the Australian Government.

Project Number: VG13097

Horticulture  
Innovation  
Australia



R&amp;D

Drive Train

## Using game theory to explain real world behaviour in the vegetable industry

AS THE LINK BETWEEN ECONOMICS AND REAL WORLD BEHAVIOUR CAN SOMETIMES BE HARD TO EXPLAIN, THIS HAS LED ECONOMISTS TO DEVELOP GAME THEORY. AUSVEG ECONOMIST ANDREW KRUPP REFLECTS ON GAME THEORY, PARTICULARLY THE "PRISONER'S DILEMMA", AND HOW IT RELATES TO ISSUES FACED IN THE AUSTRALIAN VEGETABLE INDUSTRY.

Economists often use economic models to simplify real world behaviour to help them explain why individuals behave in the way they do. One such model that has gained a lot of traction is game theory.

Game theory helps to explain individual behaviours by expressing a real life situation in the form of a game in which players make decisions (or moves) either sequentially or simultaneously and then receive the benefits (or drawbacks) of these decisions that were made. Simple games tend to be defined using two players, although the model can be extended to include many players or groups of players.

### A game of strategy

Figure 1 provides an example of a strategic game between two players. In this game, player A has two choices (or moves) and they may choose to cooperate or

to not cooperate. Player B also faces the same decision set.

The result of each player's choices (payoffs) are provided in Figure 1, where the first number is the payoff to player B and the second is the payoff to player A. Payoffs are given in units, however they can easily be represented by dollars or utility (happiness).

Using Figure 1 as an example, if player A elects to cooperate and player B chooses not to cooperate, then the payoff result would be five to player B and zero to player A. Similarly, if both players cooperate, the payoff would be three to A and three to B. However, if both players decide not to cooperate then they both receive a payoff of one.

### Prisoner's Dilemma

The game described in Figure 1 illustrates what is known in

economics and philosophy as the Prisoner's Dilemma. This is a situation where two parties would be jointly better off if they cooperated, however there is an economic incentive to deviate from the optimum outcome at the cost of the group.

For example, if both parties cooperate they would each receive a payoff of three or the group would earn a total of six. If one party defects and the other cooperates, the party that defects earns five while the other party receives zero, resulting in a group payoff of five (5+0).

The Prisoner's Dilemma situation arises when there is a group social optimum that occurs when both parties cooperate (group payoff of six). However, each individual has an incentive to defect (in their own self-interest), leading to the group payoff being substantially less.

A key feature of this

type of strategic game is the requirement of a communications/coordination mechanism between both parties to ensure that they cooperate and achieve a socially optimal outcome for the group.

### Theory in practice

Prisoner's Dilemma situations occur in many real world situations. Within the context of the Australian vegetable industry, two examples of the Prisoner's Dilemma situations occur when looking at the National Vegetable Levy and water management planning.

The National Vegetable Levy is designed to enforce cooperation by vegetable growers. Under a situation where there is no vegetable levy, some growers are likely to continue research and development (cooperate) while others may decide not to invest (defect). The net result is that some growers may receive



**Figure 1**

**Player A**

		Cooperate	Defect
		Cooperate	Defect
<b>Player B</b>	Cooperate	3, 3	0, 5
	Defect	5, 0	1, 1

payoffs from R&D expenditure while others may receive no payoff at all, leading to the defect, cooperate outcome demonstrated in Figure 1.

The economic or academic reasoning for the function of the National Vegetable Levy is that all growers invest in R&D. By the use of this mechanism, R&D can be conducted on behalf of the entire industry, which allows not only equal access to the research findings, but a social outcome that is larger than what is likely to occur without the levy system in place.

**Water management**

Similarly, Prisoner’s Dilemma situations can be found in water resource management schemes such as the Murray Darling Basin. Without water

management schemes in place, individuals have an economic incentive to not cooperate and use as much water as possible at a large cost to their neighbours.

In the case of natural resource management economics, Prisoner’s Dilemma situations lead to what is known as the “Tragedy of the Commons”. This is a situation where resources may become depleted because individuals have incentives to use as much of the resource as quickly as possible to prevent others from also using the same resource.

It is argued that water management schemes are put into place as a communications mechanism for farmers to coordinate consumption of the resource so that the interests of the group are aligned with the

interests of each individual.

**The bottom line**

This article has explained the economic model and foundations surrounding game theory and strategic planning. The purpose of this explanation has been to provide the background understanding of why regulatory procedures are put in place within the Australian vegetable industry.

However, there are a few criticisms and assumptions made in game theory that lead to the regulatory environment we have today. A key assumption that has been made is that legislation is the only method available to act as a communication mechanism between growers.

Several other economists have

argued that other, more market-based systems can act as a communications mechanism as well. This article has been framed in terms of the current context of the industry and as an explanation of current circumstances.

For more information, please contact AUSVEG.  
 Phone: (03) 9882 0277.  
 Email: [info@ausveg.com.au](mailto:info@ausveg.com.au)

The Economist Sub-Program has been funded by Horticulture Innovation Australia using the National Vegetable Levy and funds from the Australian Government.

Project Number: VG15027

**Horticulture Innovation Australia**



Swanport Harvest Farm Operations Manager Davinder Singh inspects his lettuce crop located in Murray Bridge, South Australia.

## Keeping Sclerotinia rot under control

A SOUTH AUSTRALIAN GROWING OPERATION HAS GAINED THE UPPER HAND IN THE FIGHT AGAINST SCLEROTINIA ROT, A DISEASE PRIMARILY AFFECTING ITS LETTUCE CROPS. GROWERS CAN NOW ACCESS A CROP PROTECTION SOLUTION WITH A SHORT WITHHOLDING PERIOD TO PROTECT CROPS AGAINST THIS DISEASE.

**S**clerotinia rot has been a major problem affecting lettuce crops on Swanport Harvest's property in South Australia.

Located at Murray Bridge, the property has recently used DuPont™ Fontelis® fungicide as part of its spray program. Farm Operations Manager Davinder Singh pointed to the short withholding period as a positive outcome from using the product.

"Before the minimum was a 14-day withholding period. Now we have a three-day holding period and I can apply before harvesting," Mr Singh said.

"We are getting very good results."

### Tackling the problem

Mr Singh said Sclerotinia rot had caused a lot of plant death across a paddock, starting in a small area before spreading rapidly. However, using Fontelis® has made a huge difference to the amount of

plants that were harvested, with an increase from 50 per cent of the crop to 75 per cent.

"(Before) when it was close to harvest, there were a few (plants) dead with Sclerotinia rot and we would lose that money. Now, everything is the same but we are getting more numbers in the end."

Mr Singh was introduced to the product by his local agronomist as an option in the late stages of the lettuce crop, in a period where no other fungicide was suitable.

"When I started, I was worried but I tried it three or four times and it is very good and now that one is in my program. Now I am using it all the time. We are getting more, better lettuce and we are saving."

### Improvement in quality

E.E. Muir and Sons Agronomist Wayne Mattschoss said Fontelis® was an excellent option to fit into the Swanport Harvest program.

"I've seen crops where 50 per cent of the crop has been wiped out by Sclerotinia rot, so any product that can help out is obviously something that we are keen at looking at," he said.

"There is not one silver bullet with Sclerotinia rot. You need to use a lot of different things, which they are doing here. There wasn't anything really late that provided any gains until this product came along. As you can see, it is helping improve the yields and the quality."

### Forward planning

He said the product could work anywhere in the crop, but with the short withholding period, it has been placed late in the crop. Other chemistry is used around this product as part of a resistance strategy to help make sure it is available for the long-term.

"It is vital that they are rotating their chemicals because a product might be great one day and the next day it is not

working at all," Mr Mattschoss said.

"If they are using all the products available to them that they are feeling is providing some result, then hopefully it is going to extend to the ones that are providing the best result. It is tough as well to get the growers to ease up and not overuse it, but constant reminders help."

While lettuce is the major crop grown at Swanport Harvest, the company also produces broccoli, cauliflower, celery and cos lettuce with production throughout the year. Mr Mattschoss added that if they were not applying Fontelis® at the critical time of the crop, they would be having some real issues with Sclerotinia rot.



Always refer to label before use. For more information, visit [cropprotection.dupont.com.au](http://cropprotection.dupont.com.au).

# Australian Export Awards: Apply now!

Applications for the 54th Australian Export Awards (AEA) are now open. Co-presented by Austrade, the Australian Chamber of Commerce and Industry and CPA Australia, the AEA is a national program that honours Australian businesses for their export achievements and contribution to Australia's economic prosperity.

Applications are now being accepted in 12 national award categories. State and territory winners will automatically progress as national finalists in their category, while the

Australian Exporter of the Year will be selected from the national category winners.

## Recognising export success

Enter the AEA through your state or territory's export awards program. Entry is free and the application process is straightforward.

- Boost your profile and reputation among local and international customers.
- Distinguish yourself from your competitors as an AEA winner/finalist.

- Increase your profile with the Australian Government and your state/territory government.
  - Attend a masterclass hosted by business experts and top exporters.
  - Critically review your business during the application process and uncover ways to improve export strategies and operations.
  - Gain media exposure for your achievements.
  - Network with other exporters.
- As the winner of the 2015 Small Business Award, B.box for kids creative director and co-owner

Dannielle Michaels said there were many benefits of entering the awards.

"It's of no cost to you to enter the awards, it's a great marketing exercise and it's certainly a great networking opportunity," she said.



To apply for the Australian Export Awards, visit [exportawards.gov.au](http://exportawards.gov.au). You can enter through your state or territory's export awards program.

## CALENDAR

**7-9 September 2016**

### Asia Fruit Logistica

**Where:** Hong Kong

**What:** Asia Fruit Logistica is Asia's leading trade show for the international fresh fruit and vegetable business. Last year's event attracted more than 9,200 visitors from 70 countries. The Logistica is accompanied by Asiafruit Congress, which takes place the day before the trade show.

**Further Information:** Please contact AUSVEG on 03 9882 0277 or email [info@ausveg.com.au](mailto:info@ausveg.com.au).

**11-25 September 2016**

### 2016 Young Grower Industry Leadership and Development Mission

**Where:** Chile, Argentina and Brazil

**What:** A group of nine vegetable levy paying growers under the age of 35 will take the first step to becoming a leader in Australian horticulture with the once-in-a-lifetime chance to visit leading growing operations in South America.

**Further Information:** Please contact AUSVEG on 03 9882 0277 or email [info@ausveg.com.au](mailto:info@ausveg.com.au).



An array of events and speakers at the 2016 National Horticulture Convention garnered significant media attention, with AUSVEG reaching a national audience of 887,612 during June. AUSVEG was mentioned in a total of 270 media reports across print, broadcast and television outlets throughout the month.

This year's National Horticulture Convention hosted a live on-site broadcast of the ABC's Queensland Country Hour on Friday 24 June, which included interviews with many Convention speakers and leading growers.

Convention speakers also featured on online and broadcast media. Martin Kneebone from Freshlogic discussed the latest trends in vegetable consumption, particularly the increased trend towards snacking food options, while Scott Parkinson from the Australian Taxation Office discussed "phoenix behaviour" of rogue labour hire companies.

### Celebrating Australia's leading growers

Recipients of AUSVEG awards at the National Awards for Excellence were widely reported through various print and broadcast media, promoting the positive impact that the award winners have had on the Australian vegetable and potato industries.

In particular, AUSVEG Grower of the Year Rob Hinrichsen from Kalfresh featured extensively in a range of media outlets, which highlighted his dedication to maintaining healthy soils and introducing efficient farming practices onto his property.

Sharron Windolf, the winner of the joint industry Women in Horticulture Award, also conducted a range of interviews to discuss the important role that women play in Australian horticulture.

### Encouraging exports

In addition to the Convention, several AUSVEG-related activities also gained significant media traction.

The Reverse Trade Mission, which brought over 40 Asian and Middle Eastern buyers to the Gold Coast for one-on-one meetings with growers, featured on broadcast media in addition to the 2016 Practicalities for Exporting Vegetables

Symposium held on Sunday 26 June, which gave attendees a functional overview of the vegetable export process.

### New vegetable R&D

The latest consumer research from the levy-funded Project Harvest study once again attracted media attention, with AUSVEG National Manager – Communications Shaun Lindhe appearing on radio to discuss the findings. With the latest report showing that consumers are turning to traditional winter vegetables for warm meals as Australia heads into the colder months, Mr Lindhe discussed the health and nutrition benefits of using vegetables as winter comfort food.

Mr Lindhe also appeared on radio and in print discussing the findings from an ad hoc Project Harvest study into the vegetable-buying habits of Millennial Australians. He noted that only half of shoppers aged 18-35 buy frozen vegetables, with young consumers saying that they feel like they compromise on quality if they don't buy fresh vegetables.

In a concerning trend, research conducted by the University of Adelaide found that fewer than 10 per cent of children eat their recommended daily servings of vegetables. Mr Lindhe appeared on broadcast media to discuss the research findings, noting that it paints an extremely concerning picture of the diets of Australian children at an essential stage of their development. He also said that other research has found that tying vegetable consumption to short-term gains for consumers could be an effective way of increasing consumption.



Communication of R&D projects in the Australian vegetable industry has been funded by Horticulture Innovation Australia Limited using the National Vegetable Levy and funds from the Australian Government.

Project Number: VG15027





## Benefits of silicon in vegetable crops

**R&D**

Farm Productivity,  
Resource Use  
& Management

THERE IS A NEW WEAPON IN THE FIGHT AGAINST DISEASES SUCH AS POWDERY MILDEW. SILICON IS GAINING ATTENTION FOR HELPING VEGETABLE CROPS TO FIGHT DISEASE, WHILE IMPROVING YIELD AND QUALITY.

Plant available silicon can increase the plant's resistance to pathogens and insects by activating systemic acquired resistance (SAR) and promoting the formation of phytoliths, which damage the mouthparts of insect pests.

A recent review of the impacts of plant available silicon on vegetable crops highlighted some of the benefits in leafy vegetables, cucurbits and capsicums.

### Leafy vegetables

Some of the reported effects of silicon in leafy vegetable crops include:

- Prolonged shelf life and increased yield.
- Reduced nitrate uptake and nitrate content in leafy vegetables.

### Mache

Silicon added to the nutrient solution of hydroponically grown baby leaf mache resulted in:

- Prolonged shelf life from 4.5 to nine days in cultivar Gala by slowing down chlorophyll degradation and delaying leaf senescence.
- Reduced nitrate uptake and content in edible tissues.

### Lettuce

Under field conditions, silicon applied at 2L/ha to iceberg

lettuce in Brazil enhanced visual quality in long-term storage (20 days at 5°C), but there was little treatment difference after storage for 10 days.

A recent study showed the addition of silicon (at 50mg/L or 100mg/L as potassium metasilicate) to the nutrient solution of hydroponically grown fresh-cut leafy vegetables in Italy increased both silicon content and bioaccessible silicon in the leaves. It had no impact on yield or leaf colour, which could offer marketing opportunities as a bio-fortified product.

### Capsicum disease

The application of silicon as potassium silicate at 75mg/L to hydroponically grown capsicum in Sri Lanka during the flowering stage reduced the fruit disease anthracnose by 70 per cent, with no effect on growth or on fruit firmness, Brix or soluble solids content.

In a study in Brazil, although fruit quality was not assessed, silicon as calcium silicate at 6.8g/kg of substrate reduced the severity of Phytophthora blight in capsicum plants, a serious fungal disease that causes rots of all parts of the plant.

In a two-year study in Israel, five pre-harvest weekly

applications of bicarbonate salt solutions at 0.5 per cent w/v reduced post-harvest decay development on red capsicum fruit by 45 per cent (sodium bicarbonate) and 82 per cent (potassium bicarbonate). It also reduced fruit sunburn, foliar disease severity and leaf defoliation caused by Powdery mildew.

### Disease in cucurbits

Powdery mildew caused by the pathogens *Podosphaera fusca* or *Golovinomyces cichoracearum* is the most widespread and serious foliar fungal disease of cucurbits. Fruit from severely infected plants are typically regarded as low quality due to poor taste, texture and small size.

Cucumber plants can actively uptake and moderately accumulate silicon, which can be supplied as silicate salts in the hydroponic solution or applied as a foliar spray. In cucumber leaves, silicon deposition can inhibit colony growth of the Powdery mildew fungus, presumably by providing a physical barrier to pathogen attack.

Silicon applied as potassium silicate either in the nutrient solution at 0.26g/L or as foliar spray at 1.31g/L or 2.62 g/L, respectively to greenhouse-

grown zucchini in Canada, reduced the incidence of Powdery mildew by 27-39 per cent.

Apart from silicon, other fertiliser salts such as bicarbonates, phosphates and chlorides, applied as foliar sprays, have also been used to reduce incidence of Powdery mildew, anthracnose, Leaf spot and scab in greenhouse cucumber. These salts appear to work by altering the pH of the leaf surface, dehydrating the fungal spores and stimulating systemic processes of plant defence.



For more information, please contact Dr Gordon Rogers ([gordon@ahr.com.au](mailto:gordon@ahr.com.au)) or Dr Roberto Marques ([roberto.marques@dpi.nsw.gov.au](mailto:roberto.marques@dpi.nsw.gov.au)), or visit [ausveg.com.au/infoveg](http://ausveg.com.au/infoveg). A fact sheet is also available at [soilwealth.com.au/resources/fact-sheets/silicon-for-crop-health](http://soilwealth.com.au/resources/fact-sheets/silicon-for-crop-health).

This project, *Pre-harvest practices that will increase the shelf life and freshness of vegetables*, has been funded by Horticulture Innovation Australia Limited using the National Vegetable Levy and funds from the Australian Government.

Project Number: VG14025

**Horticulture  
Innovation  
Australia**



L-R: Apple and Pear Australia Limited CEO John Dollisson, AUSVEG Chairman Geoff Moar, AUSVEG Interim CEO Simon Bolles and Federal Trade and Investment Minister Steven Ciobo MP speak to Steritech Export Business Development Executive Benjamin Reilly.

## Breaking new ground in the Australian export industry

STERITECH IS HELPING AUSTRALIA LEAD THE WORLD IN THE USE OF PHYTOSANITARY IRRADIATION FOR PRODUCE EXPORTS. THIS FLEXIBLE TREATMENT HAS OPENED MANY DOORS FOR AUSTRALIAN PRODUCE GROWERS, WITH OPERATIONAL ADVANTAGES THAT HELP MAINTAIN THE SAFETY AND QUALITY OF THEIR PRODUCE.

The past few years have proven exciting for Steritech as multiple new export markets have opened for Australian products using phytosanitary irradiation. Export volumes treated annually have grown by 50 per cent year on year for the past three years due to increased protocols and appreciation for its quality advantages.

A flexible process, phytosanitary irradiation is fast and can be completed at any desired temperature, avoiding the risk to quality and shelf life that other traditional alternatives pose.

Steritech's Export Business Development Executive Benjamin Reilly outlined the further benefits this treatment provides.

"It's chemical-free, which is wonderful as we're able to meet increasingly stricter maximum residue limits (MRLs) while also taking an important step towards delivering on consumer demand for a cleaner piece of

fruit," Mr Reilly said.

"It's an efficient, high volume technology located at the point of export, meaning all growers can access the treatment. Foreign importers value the technology because it has opened up new air freight windows for them to source Australian products.

"As the Australian industry looks to attract and satisfy the demand of large markets throughout Asia, an efficient treatment and workable protocol is more crucial than ever. Phytosanitary irradiation provides unique flexibility that is maximising the opportunity for Australian growers to deliver the greatest possible value to the overseas customer."

### Market-access tool

Mr Reilly said this treatment is not only invaluable as a market-access tool but also offers a sales and marketing advantage to help target premium markets.

"A major quality advantage

comes from the fact that we don't have to heat or chill the fruit to any specific temperature. In addition, the treatment reduces bacteria and mould spores that extends shelf life in a number of products when compared with untreated fruit. We have seen this in berry and cherry trials among others," Mr Reilly explained.

### Successful period for growers

According to Mr Reilly, the Australian horticulture industry has experienced great success with phytosanitary irradiation this year. For instance, the tail-end of the Australian grape season brought with it increased demand for high quality grapes in Vietnam, while other supplying countries struggled due to quality issues. Using air freight-friendly irradiation protocols, Aussie growers were able to take immediate and full advantage of the increased demand.

"We saw a wonderful late season finish to the grape export programs to Vietnam that, previous to now, would have been significantly limited due to a lack of air freight workable protocols," he said.

Phytosanitary irradiation continues to be a broad success story for the Australian industry with the list of markets accepting protocols increasing. Current markets with irradiation protocols include the United States, New Zealand, Vietnam, Malaysia, Indonesia and Thailand, with other notable countries showing increasing interest to join that list.

When it comes to the export space, phytosanitary irradiation is certainly gaining strong support for maintaining the quality and safety of Australian produce.



For more information, visit [steritech.com.au](http://steritech.com.au).



## AUSVEG VIC hosts inaugural awards dinner

VICTORIA'S LEADING GROWERS AND INDUSTRY MEMBERS WERE RECOGNISED FOR THEIR CONTRIBUTION TO THE STATE'S VEGETABLE AND POTATO INDUSTRIES AT THE INAUGURAL AUSVEG VIC AWARDS FOR EXCELLENCE.

The AUSVEG VIC Awards for Excellence were held for the first time on Friday 22 April, with more than 170 growers and industry members attending the event at Kooyong Lawn Tennis Club.

AUSVEG VIC is the leading body representing the interests of the state's 840 vegetable and potato growers and provides producers with a united voice and strong representation with all levels of government.

The awards provided the opportunity to showcase the dedication to high quality produce, innovation and leadership within these vitally important industries in Victoria.

### Grower importance

AUSVEG VIC State Manager Kurt Hermann was delighted to see award winners recognised for their achievements and reiterated the important role of vegetable and potato growers in the state.

"Victoria's vegetable and potato growers are renowned globally for the exceptional quality of their produce, with 840 vegetable and potato growing operations producing nearly \$1 billion worth of produce annually," Mr Hermann said.

"It is important to celebrate and recognise the outstanding achievements of Victoria's leading growers for their hard work and dedication to the vegetable and potato industries, which are vital to the state's economy."

The maiden awards dinner was well-received by those in attendance and deemed a resounding success, not just for AUSVEG VIC but for growers and industry members alike.

"This event was a tremendous success and it would not have been possible without the wholehearted support of Victoria's growers and industry members," Mr Hermann said.

"Each individual and business who was nominated for an

award has demonstrated their commitment and dedication to the industry, and I congratulate all of the award winners on their success."

The winners of the AUSVEG VIC Awards for Excellence were included as nominees in the National Awards for Excellence,

which were held during the 2016 National Horticulture Convention on the Gold Coast on 25 June.

In great news for the state, Jill Briggs was also declared the national winner of the AUSVEG Industry Impact award.

### AUSVEG VIC AWARDS FOR EXCELLENCE WINNERS

- Andrew Bulmer** – Grower of the Year (proudly sponsored by E.E Muir and Sons)
- Daniel Maher** – Young Grower of the Year
- Robert Lamattina** – Rising Star of the Year
- Jill Briggs** – Industry Impact Award
- Glenn Favero** – Community Stewardship Award
- Chris Millis** – Environmental Award (proudly sponsored by Werribee South Farm Supplies)
- E. E. Muir and Sons** – Innovation Partner (proudly sponsored by Mode Logistics)
- Schreurs and Sons** – Innovative Marketing
- Emma Germano** – Women in Horticulture (proudly sponsored by Boomaroo)
- Dolf de Boer** – Researcher of the Year

## Send us your story ideas!

*Vegetables Australia* is always on the lookout for local and international vegetable R&D projects, leading growers and industry news to profile in the magazine.

If you have a great idea for a potential article, let us know!  
Email [info@ausveg.com.au](mailto:info@ausveg.com.au) or call 03 9882 0277.





NT Farmers Chief Executive Officer Shenal Basnayake (right) chats to a French worker at a hay-producing farm at Ali Curung, located about 4.5 hours north of Alice Springs.

## Shenal Basnayake: Rolling up the sleeves for farmers and growers

NT FARMERS HAS EXPERIENCED MANY INTERESTING CHALLENGES OVER THE PAST 12 MONTHS, PARTICULARLY IN THE AREAS OF BIOSECURITY AND WORKFORCE-RELATED ISSUES. HOWEVER, THE ORGANISATION'S FUTURE IS LOOKING BRIGHT AND THIS STARTS WITH THE FOCUSED AND ENTHUSIASTIC CEO, SHENAL BASNAYAKE.

Shenal Basnayake is a man with a plan.

The Sri-Lankan born NT Farmers Chief Executive Officer has only been in the role since July 2015, however in that time he has managed to focus on delivering three core functions to drive the organisation into the future, as well as build strong ties with the Northern Territory farming community.

"We've got three focus areas which I'm driving: Advocacy, Industry Development and Member Services," Mr Basnayake said.

"Advocacy is a critical role for us in terms of speaking out on behalf of farmers and protecting their interests, both with the Northern Territory Government and the Federal Government."

This advocacy has applied to many challenges facing NT Farmers in the past 12 months, which have included workforce issues, particularly relating to the backpacker tax.

### The importance of biosecurity

Biosecurity has also been a major focus for both Mr Basnayake and NT Farmers. The Northern Territory has faced biosecurity threats including Cucumber green mottle mosaic virus (CGMMV), Banana freckle and Myrtle rust viruses, which have had an impact not just on the vegetable industry, but on the wider farming community.

NT Farmers, according to Mr Basnayake, is looking forward to moving through these challenges with the implementation of stricter on-farm biosecurity practices.

"It's been an exercise in patience; it's been an exercise in engaging with the community and our members. It's also been an exercise in engaging with government and working closely with our Department of Primary Industry and Fisheries," Mr Basnayake said.

"We sit on some advisory bodies with the Department of Primary Industry in the NT. From an industry perspective, we work very closely hand in hand to try to get through all these incidences that occur.

"Going forward, now that the restrictions have been lifted for CGMMV, we're looking forward to a good season but (this is) subject to labour availability – the things that are impacting us with the backpacker tax issues."

### Getting out and about

Mr Basnayake admits he is not a "sit-in-the-office CEO". The former business owner, maritime sector executive and current member of numerous Boards and Ministerial Advisory Councils in the Northern Territory is relishing his role as the head of NT Farmers.

"I do spend a lot of time out on the farms. I travel around and that's probably been the most rewarding thing – that is,

getting out and being among the farmers and members and getting to talk to them. It's a much smaller farming community, the Northern Territory.

"We have lot closer relationships with our farmers and a lot of people know NT Farmers, my staff and I and they know us by our first names. It's very much like a big family up here."

According to Mr Basnayake, the Northern Territory growing region is at a "cusp" in terms of increasing production.

"The industry here has only been around for 30-odd years so it's not very old. We're at that cusp, that moment in time, where we can potentially double the value of our production in the next few decades or so – if we can get the policy settings right," he said.



For more information please visit [ntfarmers.org.au](http://ntfarmers.org.au)

# Around the states

## Western Australia



Someone wise once said that “for things to stay the same around here, a lot of things will have to change”.

Someone wise also advised not to hide your light under a bushel. So to combine both these ideas upfront, vegetablesWA is extremely pleased that the Federal Government pledged \$1 million towards expanding the Myalup irrigation area via a business plan to be further considered

by the end of the year, if they are re-elected. This result builds directly on the initial study undertaken and funded by vegetablesWA and the APC-VPC back in 2012. Although we are still a long way from turning on a tap, I think it illustrates that some strategic long-term investments can potentially have significant benefits to industry.

Our industry has recently taken many other steps to change things at a national scale, so I believe the prospects for the average grower will not just stay the same, but improve for the better.

The collaborative approach

between AUSVEG and state members around labour along with R&D and competition policy in the context of the recent election campaign, has given all growers a better chance at business success. This should be celebrated as I believe an alliance of state and Commonwealth associations advocating for the same issues will be the most likely route to getting change.

These issues certainly include the proposed backpacker tax, IR issues, the Horticulture Code of Conduct and R&D spending. We were also pleased to attend the most successful National

Horticulture Convention on the Gold Coast.

At a state level, vegetablesWA is continuing to work for growers on many fronts. If there is an issue we can help with, please contact us so we can work out any potential solutions. Our office number is 08 9481 0834.

**John Shannon**  
vegetablesWA  
Executive Officer  
103 Outram St  
West Perth WA 6005  
Phone: 08 9481 0834  
Email: john.shannon@vegetableswa.com.au

## South Australia



AUSVEG SA would like to congratulate its national counterparts at AUSVEG for again delivering a highly successful National Horticulture Convention. In particular, we congratulate Thang Hoang Le ('Aussie Kev') for being named AUSVEG Young Grower of the Year. Kev was recognised for setting up regional R&D groups with growers on the Northern Adelaide Plains and for his drive in accessing and applying research within his

grower network.

In recent events, South Australia played host to the 2016 Reverse Trade Mission which saw over 40 key international export buyers from Asia visit the state. AUSVEG SA has an objective to assist its growers to access export markets and was pleased by the progress made by a number of growers in recent years. The 2016 mission included visits to farms, the South Australian Produce Market and a social event which was held on Wednesday 22 June, which attracted a large number of growers from throughout the state, government officials and

industry members. AUSVEG SA hopes to continue its strong program of export initiatives, which include intensive export training and participation in South Australian Government Trade Initiatives.

In the next month, AUSVEG SA will again participate in the South Australian Government's South East Asia Mission to Singapore, Malaysia and Thailand. The mission will provide an opportunity to better develop South Australian trade networks with key buyers in export markets. This is combined with other projects including a study into market access issues in China, which is

currently being conducted.

AUSVEG SA has also recently finalised funding for a South Australian Industry Development Officer to assist the state's growers to better access and implement R&D. This position will have a hands-on role working with growers throughout the state and AUSVEG SA is extremely proud to be delivering this service to South Australian growers with funding through Hort Innovation.

**Jordan Brooke-Barnett**  
AUSVEG SA  
State Manager  
Suite 205, 22 Grenfell Street  
Adelaide, SA 5000  
Phone: 08 8221 5220

## Victoria



AUSVEG VIC continues to work closely with growers across the state in an attempt to secure funding for critical water infrastructure.

The Federal Government recently announced funding to conduct a feasibility study into water infrastructure across Melbourne's south-east. While this is a valuable first step, both State and Federal Governments need to significantly invest in infrastructure if the future of

vegetable growing is to be secured, particularly in the Werribee and Cranbourne regions.

AUSVEG VIC would also like to congratulate the Victorian winners at the 2016 National Awards for Excellence.

Tony Croft, from Arahura Farms in Nyah West, took out the 2016 Environmental Award. Established in 2000, Arahura Farms has grown to become one of Australia's largest and premier growers of organic carrots and beetroots. Due to clever farming techniques, Tony and his family are able to

supply major markets all year round. Arahura Farms has demonstrated its commitment to environmentally friendly farming, and its produce is 100 per cent certified organic and 100 per cent sustainable.

Jill Briggs is the Managing Director for Rural Training Initiatives and the worthy winner of the 2016 Industry Impact Award. Rural Training Initiatives provides rural communities and industries with skills for the future. Through her consulting role, Jill has developed and managed the vegetable industry leadership program Growing

Leaders. Having worked with rural industries and communities since 1985, Jill has a passion to develop, provide and facilitate programs that are tailored to individual needs and ensure the benefits to the individual or business are maximised.

**Kurt Hermann**  
AUSVEG VIC  
State Manager  
Level 2, 273 Camberwell Road  
Camberwell, VIC 3124  
Phone: 03 9882 0277  
Email: kurt.hermann@ausvegvic.com.au

# Around the states

## Queensland



Accessing a secure supply of local workers has long been an issue for Queensland vegetable farmers. Now, a new network of agriculture workforce officers across Queensland is working with farmers in all sectors to find labour solutions to help them grow their businesses.

The Queensland Agriculture Workforce Network (QAWN) is an industry-led initiative funded by the Queensland Government.

A positive example of QAWN's work in the region is the recent The Sweetest Job campaign for strawberry growers in the Sunshine Coast and Moreton Bay regions in Queensland (visit [thesweetestjob.com.au](http://thesweetestjob.com.au)). More than 1,400 local job seekers have registered for harvest work in the strawberry industry since the campaign began at the end of May. Some

of these job seekers have already been inducted and are working on farms.

Growcom's Michelle Templin is the QAWN Project Manager and representative for south-east Queensland.

The QAWN initiative is working to improve the image of farm employment and promote the wide variety of employment options on farms and across the agribusiness supply chain. QAWN is also helping industry to attract suitable workers by raising job seekers' awareness about what qualifications and skill sets would help make them more job-ready and employable.

A June project in Mareeba featured an industry familiarisation field day on four farms for 17 former refugees from Myanmar and West Papua, who have completed a Certificate II in Production Horticulture through the Journey to Jobs program.

If farmers are looking to upskill their existing workers, QAWN officers can also assist with information about available

funding and training courses.

Although the QAWN officers are hosted by cane industry and horticulture bodies such as Growcom, they are working to assist farmers in all agriculture sectors, whether it is by providing information on available employment options and wage subsidies, or connecting employers with local training providers and giving an update on what funding opportunities are available to upskill their workers.

If, as an agribusiness employer in the vegetable industry, you are keen to explore what labour options are available or if you want to know where to access funded training, please contact the relevant QAWN Officer in your region.

The QAWN officers are:

- Southern Qld: Janne Dipple, [jdipple@growcom.com.au](mailto:jdipple@growcom.com.au), 0408 135 003.
- South East Qld (Project Manager): Michelle Templin, [mtemplin@growcom.com.au](mailto:mtemplin@growcom.com.au), 0400 231 949.

- North Qld: Bianca Fullarton, [workforce@bowengumlugrowers.com.au](mailto:workforce@bowengumlugrowers.com.au), 0427 009 929.
- Wide Bay Burnett: Kylie Jackson, [kylie.jackson@bfbvg.com.au](mailto:kylie.jackson@bfbvg.com.au), 0488 533 801.
- Central Qld: Janice Nelson, [janice\\_nelson@canegrowers.com.au](mailto:janice_nelson@canegrowers.com.au), 0419 706 506.
- Far North Qld: Leanne Kruss, [rwdo.mdfvga.fnq@gmail.com](mailto:rwdo.mdfvga.fnq@gmail.com), 0431 743 633.

QAWN is part of a suite of Queensland Government funded initiatives, including the Rural Jobs and Skills Alliance (RJSA), Agforce School to Industry Partnership Program (SIPP) and Gateway Schools to Agribusiness, all of which aim to address agriculture's labour and skill needs.

### Pat Hannan

Growcom  
Chief Executive Officer  
68 Anderson Street,  
Fortitude Valley, QLD 4006  
Phone: 07 3620 3844  
Fax: 07 36203880

## Tasmania



As many would know by now, it's been a tough season down here in Tasmania.

The vegetable industry has taken a series of significant hits over the last year and a half. Growers have experienced long periods with little or no rain. This commenced in autumn last year and has continued through the winter and spring and into summer.

Just a few short months ago, we were all struggling with a lack of water, high electricity prices due to irrigation costs,

lack of feed and fodder and wondering if it would ever rain again.

Well, now we have the answer. Yes it did rain again, and in spades.

The recent high rainfall has inevitably brought with it a mixture of blessings and problems. There is no question that we needed a good soak to recharge the sub-soil moisture, which had all but disappeared. It just would have been better to receive it over a longer and more controlled period.

Most Tasmanian farms, especially in the north of the state, are mixed enterprises and vegetables are a major part of many of the business systems. For example, many dairy farmers are also serious

vegetable growers. With the weather and the recent hits taken by the dairy industry and poppy growers, the vegetable industry over this season has been a source of some much-needed income for many – despite its own misfortunes.

Irrigation development is allowing the state's farmers to grow vegetables in new areas as part of an increasingly diverse crop rotation. This expansion and diversification has spread the risk of production but also increased its exposure to the elements.

Now, the weather has turned full circle with the recent devastating floods in our state. Compared to some sectors, the bulk of the vegetable industry has fared relatively well. The

timing ensured that, seasonally, the deluge didn't affect valuable crops like peas and beans. However, the unprecedented flooding has affected normally safe areas for production and caused damage to soils, infrastructure and the tail end of winter vegetables.

Harvest Moon, a north-west Tasmanian fresh vegetable processor, was one of the biggest victims of the flood. They reported in excess of \$500,000 damage.

### Wayne Johnston

Tasmanian Farmers & Graziers Association  
President  
Cnr Cimitiere and Charles Streets Launceston, TAS 7250  
Phone: 03 6332 1800

## Northern Territory



The NT Top End is still waiting for the dry season to start. The wet season was a total fizzer with rainfall averages up to half a metre below average in the Darwin rural area, but the heat and humidity refuses to go away. This plays havoc with pest and disease damage on a lot of the vegetable products from the NT – which normally will only occur for a couple of weeks in the transition season from wet to dry – but this year have been around for almost three months. Common diseases like anthracnose on Birds-eye chilli and Tomato yellow leaf

curl virus (TYLCV) are causing ongoing grief and costs for growers, nurseries and the general public. Everyone in the NT is hoping that the big high pressure systems will settle in the Bight and some cool dry air can find its way to the north of Australia.

Cucurbit growers are working hard to comply with the new Cucurbit green mottle mosaic virus (CGMMV) regulations in the NT which require growers to have an on-farm biosecurity plan. NT Farmers is assisting in developing on-farm biosecurity farm plans to protect individual farms in the NT, maintain interstate market access and to manage the spread and hopefully eventually eradicate the virus. These plans are being audited by NT Quarantine, which is also assisting in the training workshops so growers

have a good chance to get their on-farm biosecurity plans and implementation up to standard early in the season.

NT Department of Primary Industry and Fisheries is leading a multi-agency and multi-state project to research critical aspects of management of CGMMV, including identification and verification of weed hosts, understanding the persistence and viability of the virus in contaminated soil, improving diagnostics for plant and seed material and what role bees may have in the persistence and possible transmission of the virus. NT Farmers will participate by keeping affected areas in the NT and the wider industry up-to-date with developments from this research.

It is certainly election year in the NT, following the federal

poll on 2 July and the upcoming NT government election on 27 August. Farmers across northern Australia are hoping that the bipartisan enthusiasm of all the major political parties for northern development is not forgotten in the lead-up to the polls.

### Greg Owens

NT Farmers Association  
Vegetable Grower  
Engagement Officer  
Mobile: 0437 092 551  
Email: [greg@ntfarmers.org.au](mailto:greg@ntfarmers.org.au)  
Website: [ntfarmers.org.au](http://ntfarmers.org.au)

## New South Wales



The NSW Farmers' Horticulture Section Conference was held in early June with a variety of speakers addressing the audience and challenging them to critically review the future of the retail sector, the needs of industry for research and development, and the effects the backpacker tax may have.

Keynote speaker, Tristan Kitchener, engaged the audience to look at the

future state of retailing and how Australia's unique marketplace can be a hindrance or opportunity to growers. Tristan explored the introduction of ALDI to the marketplace and how the fresh food war for dominance is impacting growers.

The Conference also focused heavily on the need for research and development and effective biosecurity management plans, especially with regard to Queensland fruit fly. The Conference moved for the NSW Government to fully enforce the new Biosecurity Act to help combat the threat from weeds, pests and diseases from neglected and abandoned orchards and roadsides.

This includes removal of fruit trees and vines on properties where the owners do not take adequate measures to control these pests.

The Conference was able to hear from a Moira Shire Council representative on their biosecurity and fruit fly management plan, which incorporates community awareness, education and effective management and removal of trees that are likely to harbour pests and diseases.

NSW Farmers has been working with the Department of Primary Industries to establish a compliance project that targets neglected and abandoned orchards, similar to the plan the Moira Shire Council has

currently enacted. The ability to control or remove affected trees that have the ability to directly impact and damage agricultural businesses is an important agenda item for NSW Farmers.

### Brett Guthrey

NSW Farmers' Association  
Horticulture Chair  
Level 25, 66 Goulburn Street  
Sydney, NSW 2000  
Phone: 02 8251 1804  
Fax: 02 8251 1750



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