

| January/February - 2018 |

# vegetables

australia



| LUCKY KHAKH - A NEW START IN THE LUCKY COUNTRY | VEGNET - R&D EXTENSION UPDATES |  
| PROTECTING INDUSTRY - GROWER CONSULTATION UNDERWAY TO RAISE BIOSECURITY LEVIES |

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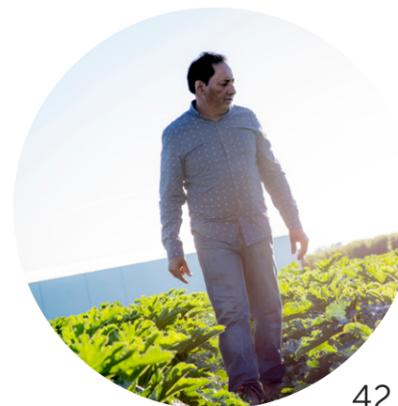
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## EDITORIAL

Effective feedback, both positive and constructive, is crucial if you want to improve.

Over the past few weeks, AUSVEG representatives have been visiting key vegetable growing regions across the country to meet with growers and hear their challenges and concerns. These discussions have sparked some feedback on AUSVEG communication materials for the industry and it got us thinking: we want to hear more from you.

AUSVEG'S *Vegetable Industry Communications Program* (VG15027) is a strategic levy investment under the Hort Innovation Vegetable Fund. It includes many different elements, from *Vegetables Australia* magazine, the annual *Vegetable Grower Success Stories* booklet, Weekly Update e-newsletter, media relations, InfoVeg services (online database, podcast and video – see more at [ausveg.com.au/infoveg](http://ausveg.com.au/infoveg)), as well as our social media platforms including Twitter, Facebook, LinkedIn and Instagram.

Stakeholder engagement also forms a core part of the program makeup. One initiative we have introduced is a regular meeting with the Vegetable Industry Communications Stakeholder Engagement Committee, which provides advice and feedback on our current activities to ensure the content remains relevant and effective. The committee includes representatives from the AUSVEG communications team, Hort Innovation, state grower representatives

and industry members. It is a highly beneficial tool to optimise our communications materials for vegetable growers, but it isn't the only way we can receive feedback.

In terms of the content for *Vegetables Australia*, over the last two years our team has made a targeted effort to include diverse voices in the magazine and regular columns from ongoing strategic levy investment projects such as Soil Wealth/Integrated Crop Protection and the National Vegetable Extension Network (VegNET).

However, we can only do so much without your help.

We strongly encourage all readers to share their thoughts and concerns as they arise. Our industry communications are in place to serve you, the grower, and improve your awareness of strategic levy investment projects in the vegetable industry and how they can strengthen your productivity and profitability on-farm.

If there is something we are doing well, or something you think we can do better, we want to hear about it.

AUSVEG will also send a short online survey on all elements of our communications program in early 2018, which will be a simple way to provide feedback. Keep an eye out for this survey in the coming weeks, otherwise you can give us a call on 03 9882 0277 or email [communications@ausveg.com.au](mailto:communications@ausveg.com.au) to share your thoughts and ideas.

Finally, we thank the vegetable industry and contributors for their support and wish you all the best for the year ahead.

Bill Bulmer  
AUSVEG CHAIRMAN

James Whiteside  
AUSVEG CEO

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I have been very humbled to receive the messages of support from the industry following the announcement of my election as AUSVEG Chair.

I would like to pay tribute to the successful four-year tenure of my predecessor Geoff Moar, who has been a loyal and dedicated leader for the industry and will remain on the AUSVEG Board. I am looking forward to stepping up to the role of Chair and leading AUSVEG alongside our Deputy Chair Belinda Adams, Board Directors and CEO James Whiteside in the new year.

For those of you who don't know me, I am a leafy veg grower from Bulmer Farms based in Lindenow, tucked away in the fertile Mitchell River Valley in Victoria's Gippsland region. We started out as a 32-hectare dairy farm in 1948 and now supply fresh vegetables to wholesalers and processors throughout Australia.

I have been farming for over 40 years and have since stepped back from the day-to-day running of the business, leaving this in the very capable hands of my sons, Andrew and Kaine. With some more free time up my sleeve, I decided to start giving back to the industry and tackling the issues that affect growers.

AUSVEG is set to lead the potato and vegetable industry into exciting times in 2018. With a new company strategy in place, AUSVEG is keen to advance a number of critical issues facing our growers.

Our existing advocacy work will be buoyed through increased investment and resourcing, particularly through the appointment of a new National Public Affairs Manager who will be ready to take the reins of this role early in the new year. A stronger vegetable and potato industry is a priority for our organisation, and I will ensure we will bring the rest of the horticulture industry with us – it is in everyone's best interest to have a strong and united horticulture advocate and I am certain AUSVEG can play a leading role.

The successful launch of Hort Connections 2017 last year in partnership with the Produce Marketing Association Australia-New Zealand (PMA A-NZ), was a highlight of the year and AUSVEG is looking forward to building on that success when Hort Connections 2018 returns to Brisbane from 18-20 June. I encourage you all to come along – registrations are open, so don't miss out on the opportunity to meet your peers and learn the latest research and developments in your industry.

While I have taken up the position of AUSVEG Chair, I will also need to rely on the knowledge and experience of the AUSVEG Board, CEO and staff to provide a central voice in the industry that is open and transparent. With their support I am confident of leading AUSVEG into a new era in the Australian horticulture industry.



*Bill Bulmer*

Bill Bulmer  
Chairman  
AUSVEG



*James Whiteside*

James Whiteside  
CEO  
AUSVEG

It has been a particularly difficult 12 months for vegetable and potato growers in Western Australia, after the tomato potato psyllid (TPP) was first discovered in a Perth backyard in February 2017.

The TPP incursion sparked some conversation around the role of the Emergency Plant Pest Response Deed (the Deed), which is a legally-binding contract between Plant Health Australia, the Federal Government, all states and territories, and national plant industry bodies, including AUSVEG.

The Deed comes into practice when an emergency plant pest such as TPP arrives in Australia, and covers the management and funding of the response to the incident. AUSVEG has chosen to be a signatory of the Deed to ensure that vegetable and potato growers are well represented in decision making if a relevant emergency plant pest arrives in the country and threatens the viability of our industry.

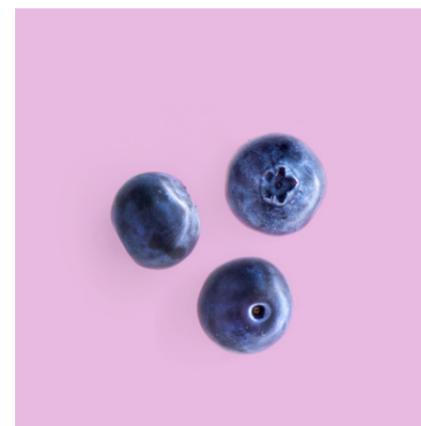
The TPP incursion is a clear example of why the Deed plays such an important role in the vegetable and potato industries. Following the detection of TPP, the Consultative Committee on Emergency Plant Pests (CCEPP) was convened to coordinate a national response to the incursion and assess whether the psyllid could be eradicated. AUSVEG actively contributed to these discussions and worked closely with all relevant parties.

In 2017, the decision was made that TPP could not be eradicated and a 12-month Transition to Management response was implemented to give the industry the tools and protocols it needs to manage the psyllid. The funding for this response plan is cost-shared between government and industry at a ratio of 80:20.

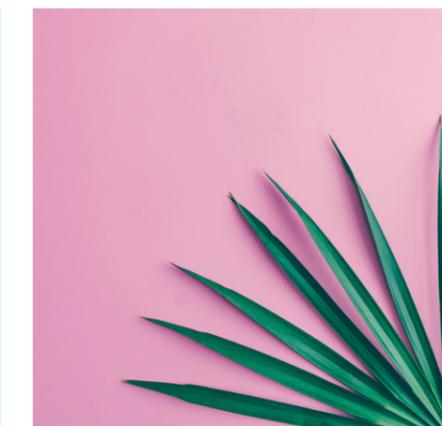
To raise the necessary funds for our industries' contributions to the response plan, AUSVEG is consulting with growers to increase the vegetable and fresh potato industries' Emergency Plant Pest Response levies. These levies are currently set at the rate of zero per cent for vegetables and zero cents per tonne for fresh potatoes, both at the first point of sale.

Following notification to industry and an objection period, AUSVEG intends to request that the EPPR levies are raised to a positive rate of 0.01 per cent for vegetables and 10 cents per tonne for fresh potatoes, which is expected to accrue, respectively, around \$187,000 and \$130,000 annually for around three years.

The arrival of TPP in Western Australia has been devastating for vegetable and potato growers in the state and has potentially wide-reaching trade restrictions and financial impacts for growers across Australia. The EPPR levies are the most important means that the industry has to coordinate the industry response to TPP, and it is therefore vital that the levies are successfully raised so that we can fund the management plan that will limit TPP's impact on Australia's vegetable and potato growers.



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15 per cent

Project Harvest Wave 41 research revealed that 15 per cent of consumers used silverbeet when cooking a new recipe. Silverbeet is popularly cooked in Australian and Chinese cuisine, consistent with past waves.



51 per cent

Of vegetables produced for human consumption, approximately 51 per cent by value (\$1.7 billion) are subject to the National Vegetable Levy, according to Deloitte Access Economics.



11 per cent

The 2014 study *Fruits and Vegetables Consumption and Risk of Stroke: A Meta-Analysis of Prospective Cohort Studies* reports that the risk of stroke decreases by 11 per cent for every 200 grams per day increment in vegetable consumption.



## AUSVEG TO CONSULT WITH GROWERS TO RAISE BIOSECURITY LEVIES

AUSVEG has released a notification of intent to increase the Emergency Plant Pest Response (EPPR) levies for the vegetable and fresh potato industries to fund contributions to the management response to the tomato potato psyllid.

In February 2017, tomato potato psyllid (TPP) was detected in commercial and backyard crops across the Perth metropolitan area. The Australian horticulture industry has never had to deal with this pest before, although it is found around the world in places such as the United States, Central America, New Zealand and Norfolk Island.

The psyllid had been detected in multiple locations in Western Australia, with the majority of detections in the Perth metropolitan area.

The psyllid causes 'psyllid yellows' in Solanaceous crops and commonly vectors a bacterium *Candidatus Liberibacter solanacearum* (CLso) that causes zebra chip in potato. At the time of writing, CLso had not been detected in Australia.

### CALL TO RAISE BIOSECURITY LEVIES

The vegetable and fresh potato industries' Emergency Plant Pest Response (EPPR) levies were put in place in 2012, following extensive industry consultation, to provide a mechanism to fund preparedness and eradication activities to reduce the threat of exotic plant pests. They are currently set at the rate of zero per cent for vegetables and zero cents per tonne for fresh potatoes, both at the first point of sale.

Following notification to industry and an objection period, AUSVEG intends to request that the Minister for Agriculture and Water Resources:

- increase the vegetable EPPR levy from zero per cent to a positive rate of 0.01 per cent of the value at the point of sale; and
- increase the fresh potato EPPR levy from zero cents per tonne to a positive rate of 10 cents per tonne at the point of sale.

If the EPPR levies are successfully increased, it is intended that the accrued funds will contribute to paying costs relating to tomato potato psyllid eradication activities and the 12-month Transition to Management (T2M) program that aims to give industry the tools and protocols it needs to manage the pest.

### TRANSITIONING TO MANAGEMENT

A T2M program is a structured way of winding down an eradication response and handing management of the pest to industry to ensure that it has the tools and resources it needs to effectively manage the pest.

On completion of the T2M phase:

- we will know if CLso is carried by our TPP population;

- we will have guidance material to manage TPP at a farm level;
- we will have a national plan to guide management of TPP now, and into the future;
- we will have interstate compliance protocols for produce grown in affected regions; and
- we will have begun Australian research on the biology and management of our endemic population.

It is AUSVEG's intent that the EPPR levies run at the above rates for approximately three years. As soon as possible after costs are repaid to the Federal Government, the levies will be reduced to zero per cent for vegetables and zero cents per tonne for fresh potatoes.

"Federal and state governments are making a significant contribution to this response – raising the EPPR levies is an important step to ensure our industry meets its obligations to contribute to this response," AUSVEG CEO James Whiteside said.

"The estimated contributions per year for vegetable growers are \$10.00 for small farms, \$45.00 per year for medium farms and \$300.00 per year for large farms. For potato growers the estimated contributions are \$5.00 for small farms, \$50.00 per year for medium farms and \$500.00 per year for large farms.

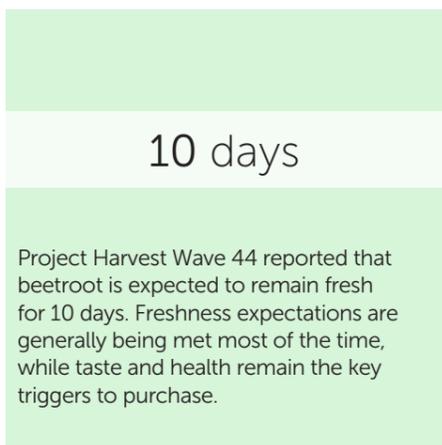
"The incursion of TPP in Western Australia has been devastating for potato and vegetable growers in the state and has potentially wide-reaching trade restrictions for growers around the country. It is vital that the industry is successful in raising these levies so that we can fund the implementation of a management plan that will limit TPP's impact on growers around the country."

### OBJECTION PERIOD – 29 JANUARY TO 28 FEBRUARY 2018

Growers who wish to lodge an objection to the above increase to the EPPR levies can do so by contacting AUSVEG or the Department of Agriculture and Water Resources.

AUSVEG: [info@ausveg.com.au](mailto:info@ausveg.com.au) or 03 9882 0277.

**Department of Agriculture and Water Resources Biosecurity Policy & Implementation Division:** [levies.policy@agriculture.gov.au](mailto:levies.policy@agriculture.gov.au) or 02 6272 2057. All objections will be reviewed and responded to.



10 days

Project Harvest Wave 44 reported that beetroot is expected to remain fresh for 10 days. Freshness expectations are generally being met most of the time, while taste and health remain the key triggers to purchase.



AUD\$204.3 million

For the year ending June 2016, the value of carrot production in Australia was AUD\$204.3 million, while the wholesale value of the fresh supply was AUD\$158.3 million. *Source: 2015/16 Australian Horticulture Statistics Handbook.*



10 per cent

One serve of sweet corn provides 10 per cent of the Recommended Dietary Intake (or two grams for fibre) of potassium, folate and thiamine, according to Veggycation@.



3000 BC

Archaeological records show that squash was part of the diet of people in the Americas in 3000 BC. It appeared in Europe in the 16th Century and pictures from the Renaissance period show various forms of squash. *Source: betterhealth.vic.gov.au.*



\$3.6 billion

The value of the Australian vegetable industry increased to around \$3.6 billion in 2015-16, accounting for around six per cent of the gross value of agricultural production. *Source: ABARES.*



69,454 tonnes

The 2015/16 Australian Horticulture Statistics Handbook reports that 69,454 tonnes of cabbage were produced for the year ending June 2016. Cabbage production occurs in most states of Australia during the winter months.

#### INFO

This communication has been funded by Hort Innovation using the vegetable research and development levy and contributions from the Australian Government.

Project Number: VG15027



## FIVE-YEAR STRATEGIC INVESTMENT PLAN UNVEILED FOR VEGETABLE INDUSTRY

Hort Innovation began developing a new Strategic Investment Plan (SIP) for the vegetable industry in 2016, with consultation events taking place in key growing regions across the country. As a result, the SIP for the next five years has been released to the industry.

The Strategic Investment Plan (SIP) for the vegetable industry is the roadmap that will help guide Hort Innovation's management of investment programs for the industry over the next five years. It lays the foundation for decision making in levy investments and represents the balanced interests of the industry.

The very important function of the SIP is to ensure levy investment decisions in the Hort Innovation Vegetable Fund align with industry priorities.

The SIP has been developed in close partnership with growers and other industry stakeholders and Hort Innovation thanks all those who have contributed their valuable time and ideas.

The potential impact of this plan is \$471.87 million, based on an estimated investment of \$90.68 million over the next five years.

In 2014-15 there were approximately 1,676 vegetable levy-paying businesses in Australia, with the majority based in Victoria (23 per cent) and Queensland (22 per cent), followed by Tasmania (15 per cent) and New South Wales, Western Australia and South Australia (13 per cent respectively).

In 2015-16, the vegetable supply chain was valued at \$3.804 billion and produced 3,567,262 tonnes – about 58 per cent of this was in fresh supply, around 36 per cent in processing and approximately six per cent in fresh export.

### INVESTMENT OUTCOMES

Following consultations with growers and industry stakeholders, the SIP identified five key outcomes for the vegetable industry over the next five years. These are:

1. Increased demand and value of the domestic vegetable industry through improved grower knowledge of the market, product differentiation, increased food service revenue, improved food safety and increased consumer knowledge.
2. Export markets grown through increased understanding of opportunities available, improved market access, improved export capabilities, improved reputation and competitive advantage.
3. Increased farm productivity and decreased production costs through better utilisation of resources, adaptation to climate, reduced impact of pests and diseases and better utilisation of advanced technologies on the farm.
4. Increased supply chain integration and development through improved supply chain management, development of collaborative models and partnerships.
5. Improved capability of levy payers to adopt improved practices and new innovation through improved communication and extension programs, grower innovation support, professional

development and workforce building programs, and through improved farm management and information systems.

### MAJOR OPPORTUNITIES

A range of opportunities have been identified for Australia's vegetable growers over the next five years. These include:

- Seasonal opportunities for export markets (southern hemisphere location).
- Close proximity to large and growing Asian markets.
- Reputation for quality processes and standards.
- Export of premium quality fresh vegetables into new markets.
- Production capacity across diverse regions.
- Increasing consumer aspirations for healthy eating.
- Increasing investment in new and innovative technologies.
- Increasing supply chain and industry integration and collaboration.
- Adoption of consumer insights and use in business decision making.
- Better exploitation of the significant investment in R&D.

### INDUSTRY CHALLENGES

The SIP also outlines a number of barriers facing the industry:

- Environmental, pest and disease factors.
- Wide climatic variability and biosecurity risks.
- Competition from imports, particularly from low-cost countries.
- Economic factors and increased global competition.
- High production costs.
- Lower farm gate margins.
- Insufficient and rising cost of labour.
- Slowing of productivity growth.
- Impediments to exports such as trade barriers.
- Limited uptake of industry knowledge and transfer of innovation.
- Adoption of best-practice management models.

To read the full vegetable Strategic Investment Plan, please visit [horticulture.com.au/grower-focus/vegetable-fund](http://horticulture.com.au/grower-focus/vegetable-fund).

#### INFO

This communication has been funded by Hort Innovation using the vegetable research and development levy and contributions from the Australian Government.

Project Number: VG15027



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about your  
industry**

**Sam Turner**  
Relationship Manager  
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New AUSVEG Chair Bill Bulmer on his farm in Lindenow, Victoria.

## NEW AUSVEG CHAIR BILL BULMER LOOKS TO THE FUTURE

Third generation Victorian leafy vegetable grower Bill Bulmer was unanimously elected to the position of AUSVEG Chair in November 2017, marking a new era for the peak industry body. *Vegetables Australia* spoke to Bill about what vegetable and potato growers, and the wider horticulture industry, can expect from the organisation in the future.

AUSVEG is set to tackle 2018 with a fresh perspective after Bill Bulmer, a third generation vegetable grower from Lindenow in East Gippsland, was announced as the new AUSVEG Chair on 13 November 2017.

As Director of Bulmer Farms and a long-serving member of the vegetable industry, Bill is a familiar face to many. He currently sits on the Executive Committee of AUSVEG VIC and the Victorian Farmers' Federation Horticulture Committee.

"While I've been involved in regional and state industry bodies over the years, I was fortunate to join the AUSVEG Board three years ago as the Victorian Director and have since appreciated the opportunity to deliver real and valid results for the industry," he said.

Bill said AUSVEG has gone from strength to strength over the years, with the organisation well-placed to continue its effective advocacy on important industry issues.

"Now that we have a company strategy in place, I am keen to address the ongoing issues facing our industry into 2018 and beyond. I am looking forward to working with our new National Public Affairs Manager who will build on our existing advocacy work early in the new year," he said.

"We will continue developing the existing strong alignments with our state members in the advocacy space and working together to tackle the problems facing growers on a national scale."

### CONTINUING ACHIEVEMENTS

Alongside the AUSVEG Board, CEO and staff, Bill is keen to capitalise on the successful launch of Hort Connections 2017 in partnership with the Produce Marketing Association Australia-New Zealand (PMA A-NZ), which attracted nearly 2,500 local and international delegates from the horticulture industry.

"AUSVEG is looking forward to building on that success when Hort Connections 2018 returns to Brisbane from 18-20 June. Nathan McIntyre and his team are working hard to strengthen collaboration across the industry and we are looking to partner with more industry co-hosts to develop another unified and valuable event to the industry," he said.

In addition to its advocacy role, AUSVEG will continue its

productive work as an industry service provider, particularly in biosecurity and export development.

"Biosecurity has been a major challenge for our growers this year, particularly with the arrival of the tomato potato psyllid in Western Australia, and they are supported by the continued good work of AUSVEG Biosecurity Officers Jessica Lye, Callum Fletcher and Madeleine Quirk," Bill said.

"AUSVEG also has a strong export development program under Michael Coote and Andrea Lin. I have been fortunate to attend fresh produce trade shows in Indonesia and Singapore as part of the program and have witnessed the great work that they do in helping growers to increase their knowledge and awareness of how the export market works."

### CHANGING ROLES

Bill also acknowledged the contributions of former Chairman Geoff Moar, who will remain on the AUSVEG Board.

"On behalf of the AUSVEG Board I would like to thank Geoff for his hard work and dedication to the industry during his time as AUSVEG Chairman. I look forward to working extensively with the wider vegetable and potato industries to continue Geoff's legacy and lead our organisation and the Australian vegetable and potato industries into the future," he said.

"The last 12 months have been an exciting period for AUSVEG, following our efforts to increase industry collaboration and work with the wider horticulture industry to provide effective services and representation for our growers.

"AUSVEG is looking forward to continuing to effectively represent Australian vegetable and potato growers in the year ahead. We have plenty of developments in the pipeline that we will roll out over the next 12 months and we're eager to continue working with the wider Australian horticulture and agriculture industry for the betterment of our growers."

#### INFO

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



Former AUSVEG Chairman Geoff Moar.

## A TIME OF REFLECTION AND NEW BEGINNINGS

After four years as AUSVEG Chairman, New South Wales potato grower Geoff Moar has decided to step aside and pass on the baton to a new leader. While Geoff will remain on the AUSVEG Board, he spoke to Dimi Kyriakou about his greatest achievements during his time in the role.

As spring draws to a close and the weather heats up, it is arguably one of the best times of the year to visit a potato farm.

It's a time when Geoff Moar monitors his 100th potato crop with pride as he conducts one of many daily checks on the centre pivot irrigation system in place on his farm in southern New South Wales.

The potato crops are in full bloom and the luscious green leaves of the plants are a stark contrast to the rich sandy loam soils that are synonymous with the Riverina region near Oaklands. It is even more striking as the potato fields are interspersed between the dry gold fields of wheat, canola and lupin in the midst of harvest.

These healthy crops are the result of many months of hard work and balancing inputs, all the while overcoming an endless list of challenges along the way. Geoff is a champion of on-farm biosecurity and farm hygiene, as his property and machinery are immaculately clean.

These achievements are even more worthy of recognition considering that Geoff has spent the last four years juggling life on the farm with his work as AUSVEG Chairman. Following a Board Meeting on 13 November 2017, Geoff decided not to nominate for re-election for the position, but he will continue to serve on the AUSVEG Board.

### A CAREER OF HIGHLIGHTS

Geoff was part of the small group of vegetable and potato growers that formed AUSVEG, and he has witnessed the organisation develop and strengthen since its inception.

"I was involved in the Riverina Potato Growers Association and the New South Wales Farmers Association, and I was the last Chair of the Potato Growers of Australia. We then merged with the Australian Vegetable Growers Federation and formed AUSVEG. I have seen the organisation through its development," he said.

"It's important to note that my work with these industry associations and AUSVEG wouldn't have been possible without the support of my wife Lesley and son Shane, who look after the farm and the administration while I am away."

While he has witnessed plenty of milestones at AUSVEG during his four-year tenure, Geoff said his proudest achievement as

Chairman was the rapid expansion of the AUSVEG National Convention, which eventually led to the development of Hort Connections 2017. The joint initiative between AUSVEG and the Produce Marketing Association of Australia-New Zealand (PMA A-NZ) attracted an array of co-hosts as well as around 2,500 attendees from the local and international horticulture industry to the Adelaide Convention Centre in May.

"The huge expansion of Hort Connections was a highlight. We took a risk particularly as other groups were competing for a similar venture and it will only become bigger and better in the future as the horticulture industry continues to work together."

### NEXT STEPS

Geoff recognised the loyalty of the AUSVEG Board and staff, and thanked them for their support and expertise during his tenure as Chairman. He said the industry was in a healthier position as a result of their commitment and tireless work.

"The last four years have seen significant changes to both the organisation and the wider industry. It has been a rewarding and valuable experience to work with such a passionate and cohesive Board to help advance the causes of our growers in this time and I am happy to work with AUSVEG Chair Bill Bulmer and Deputy Chair Belinda Adams to continue representing our vegetable and potato growers," he said.

"The important thing is that the Directors stayed united during unsettled periods of time and David Addison was a great support and a tremendous backup as Deputy Chair during my tenure.

"We have also been able to retain good staff who are valued and do the right thing by the industry. This input is important and we need to have a united group of people to monitor decisions going forward.

"The time is ripe for AUSVEG and it is a golden opportunity for the group to progress as we are a well-organised peak industry body that is recognised as one of the best."

#### INFO

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



## INDUSTRY WELCOMES DEDICATED GREENHOUSE RESEARCH AND EDUCATION HUB

The National Vegetable Protected Cropping Centre was officially opened in November 2017 at Western Sydney University. The facility will help Australian growers access the latest research and practices within greenhouse crop production to make their operations more efficient and meet the increased demand for fresh food, as well as attract new people into the horticulture industry.



Vegetable production and the wider horticulture industry received a boost on 1 November 2017 with the launch of Australia's first state-of-the-art vegetable glasshouse production research and training centre.

A joint initiative between Western Sydney University and Hort Innovation, the National Vegetable Protected Cropping Centre comprises a \$7 million glasshouse, which features cutting-edge design and technology specifically developed for Australia's harsh climatic conditions, enabling precise control of temperature, humidity, carbon dioxide and light.

This multi-million dollar investment is set to bring together vegetable growers and the best local and international researchers and industry specialists to improve protected cropping outcomes in Australia.

Assistant Minister for Agriculture and Water Resources Senator the Hon. Anne Ruston and Minister for Western Sydney Stuart Ayres officially opened the centre at Western Sydney University's Hawkesbury campus.

### A VITAL INVESTMENT

During the launch, Hort Innovation CEO John Lloyd explained how research and innovation was critical to drive the future growth of horticulture.

"We needed to invest and boost our training and education, research and innovation within the industry," Mr Lloyd said.

"There are many, many areas that we can invest in across horticulture. Horticulture is a fantastic industry – everything we do in horticulture makes people live happier, healthier, longer and more productive lives."

Mr Lloyd said the protected cropping sector in particular is expanding quickly, both domestically and internationally.

"According to Protected Cropping Australia, more than 10,000 people are estimated to be employed directly in glasshouse horticulture throughout Australia with the industry growing between four and six per cent per annum."

He added that despite this evidence, the Australian protected cropping industry is still in its infancy when compared to Europe and Canada, with growers having limited access to research and training in new technologies available in the sector.

"It was also observed that many growers travelled to

overseas institutions (mostly to the Netherlands) to update their knowledge and learn cultivation mechanisms in this specialised area, thus reinforcing the urgent need of a structured research and training facility in this sector in Australia."

It is also hoped that the opening of a cutting-edge facility such as the National Vegetable Protected Cropping Centre will entice students into the industry, strengthening its long-term sustainability.

### EXCITING DEVELOPMENT

Western Sydney University Vice-Chancellor Professor Barney Glover said that with a lineage extending 126 years, it was wonderful for the university to be opening a facility of this kind. He added that there was a sense of excitement of the research and training that will occur within the centre.

"It's been a great journey for this campus and the people associated with it," Professor Glover said.

"Understanding, refining and optimising cropping is an objective that brings competitive advantages to Australia on a global scale. That is what this centre makes possible – it's about supporting evidence-based innovations in technique, technology and application that will have a demonstrable impact domestically and around the world."

Senator Ruston said that the glasshouse was an important part of the future of horticulture and protected cropping for Australia.

"This is a huge step forward for Australian horticulture," she said.

"I congratulate Hort Innovation and Western Sydney University for seeing the value in getting together to put this fantastic project on the map."

### GROWER PERSPECTIVE

Ed Fagan from Mulyan Farm in Cowra, New South Wales, attended the centre opening and toured the new glasshouse facility. Mr Fagan told *Vegetables Australia* that there is a greater push for protected cropping in the industry, particularly as more high value product is being grown and the ongoing challenge of extreme climatic conditions.

"If you look at what happened in Queensland last year with severe flooding and cyclonic activity outside of normal periods, there is more and more interest in this type of production which is aiming at high value but also security," he said.

"I see that having a facility like this gives growers who have always put it in the 'too hard' basket an opportunity to see how it's done and get hold of the research that is done here in Australia, not necessarily things that are done in Europe where the temperature is completely different.

"It gives a lot of growers an opportunity to see something in real life, and get a handle of what's involved in it."

### INFO

For more information on the National Vegetable Protected Cropping Centre, please visit [westernsydney.edu.au](http://westernsydney.edu.au).

This communication has been funded by Hort Innovation using the vegetable research and development levy and contributions from the Australian Government.

Project Number: VG15027



Ed Fagan from Mulyan Farm. Images courtesy of Hort Innovation.

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Participants visited a range of farms during the mission, including Kase Farm in Japan.



Participants with James Bertram from Rijk Zwaan at Asia Fruit Logistica.



Garak Market in Seoul, South Korea.

## LEADING LADIES EXPERIENCE ASIA'S VEG INDUSTRY

A group of nine Australian female vegetable levy-payers experienced a once-in-a-lifetime opportunity in September 2017, when they travelled to Hong Kong, South Korea and Japan during the 2017 Women's Industry Leadership and Development Mission. *Vegetables Australia* reports on the highlights of the mission.

Nine of Australia's leading female vegetable growers took up a valuable opportunity to participate in the 2017 Women's Industry Leadership and Development Mission, where they visited a range of horticulture companies, vegetable growing operations and government departments across Hong Kong, South Korea and Japan.

These visits gave the growers an opportunity to experience horticulture on an international level, share knowledge and develop their local and international networks.

The primary objective of the mission was to provide female industry leaders with insights into international vegetable trade and growing operations and enable them to gain an in-depth understanding of the processes, procedures and issues faced within the region.

The 2017 Women's Industry Leadership and Development Mission was undertaken as part of a strategic levy investment (VG15703) under the Hort Innovation Vegetable Fund.

### EXPLORING HONG KONG

The first stop for participants was Hong Kong, where they visited the traditional wet markets and retail stores in Kowloon, such as ThreeSixty, Wellcome and PARKnSHOP. The visit gave the delegates the opportunity to see a variety of set-ups catering to different demographics, and they discovered how vegetables are packaged and marketed in Hong Kong.

However, it was Asia Fruit Logistica which was a highlight of the mission program, with the group travelling to AsiaWorld-Expo on Hong Kong Island to attend the fresh produce trade show. There were over 800 exhibitors from 43 countries showcasing a broad range of produce, innovative farm equipment, technology and on-farm resources. Group members were given the opportunity to independently visit the exhibits and presentations of relevance to them and network.

Participants made the most of their final full day in Hong Kong, spending the morning touring the facilities of Wing Kee Produce, a fresh produce importer in Hong Kong. In the afternoon, the group visited the Vegetable Marketing Organisation (VMO), which

incorporates five wholesale markets across Hong Kong. After a presentation, participants witnessed VMO's integrated hydroponic production, processing and distribution facilities, the first of its kind in Hong Kong.

### EYE-OPENING EXPERIENCE

The next stop on the mission was Seoul, the capital of South Korea. Participants visited Garak Market, which covers half a million square metres and trades over AU\$10.7 million in agricultural products daily.

In the afternoon, the group travelled to Jangan Farm, the largest organic farm in South Korea with a history dating back over 160 years. The farm's CEO and descendant of company founders, Ryu Geoun-Mo, guided the group through the farm's organic fertilising system, crops, soy pots, and even an on-site museum.

While in South Korea, the group attended a market briefing at the Austrade Seoul office at the Australian Embassy, where Business Development Manager Monica Lee gave a presentation on Australian agribusiness and food opportunities in South Korea.

During the meeting, the group was briefed on the Korea-Australia Free Trade Agreement (KAFTA), which was signed in 2014. When KAFTA is fully implemented, tariffs on many of Australia's exports to Korea will be eliminated.

### JAPANESE INSIGHT

A briefing and presentations from the Japanese Department of Agriculture and Austrade representatives at the Australian Embassy in Tokyo kicked off the final leg of the mission.

It was noted that Japan has been Australia's largest food and beverage export partner for over 10 years, worth AU\$4.1 billion in 2015-16. Japan currently has only 39 per cent self-sufficiency in food supply, which drives high demand for sustainable supply.

The presentations mainly focused on market trends and opportunities under the Japan-Australia Economic Partnership Agreement (JAPEA). It was noted that consumption of fresh produce in Japan is declining, while demand for processed food

was increasing. The group was advised that imported vegetables are used mostly for processing and that there could be further opportunities for Australian fresh produce exporters.

The group visited a range of farming operations in Japan, both organic and conventional. The largest farm visited was Shinozuka – at 16.4 hectares, this is unheard of for mainland Japan as the majority of larger farms are located on Hokkaido Island.

The group also travelled to Tokyo University of Agriculture and Technology to see the Advanced Plant Factory Research Centre. The centre was established to study and develop techniques for producing healthy, higher-yielding fruit trees.

Participants were treated to a presentation and tour by Dr Isao Origawa through the centre's two-story structure, which comprises cultivation rooms that replicate certain climates and conditions.

The mission concluded with a visit to Ota, the chief vegetable market for the Tokyo metropolitan region, which handles a significant proportion of the vegetables distributed throughout the city. Participants had the opportunity to visit the markets and learnt that there is no refrigerated storage at markets in Japan, with goods arriving and sold the same day.

### LONG-LASTING BENEFITS

Looking ahead to both the short- and long-term future is key to industry sustainability. The group was able to meet with representatives from throughout the supply chain and network at an international industry event. It also allowed the participants to gain a greater understanding of Australian Government trade assistance available to growers.

Lasting connections were formed between the women, which allowed them to create business relationships that will ultimately result in valuable information being shared among Australian vegetable growers, benefiting the industry as a whole.

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### INFO

AUSVEG would like to thank Austrade and the Australian Embassies in South Korea and Japan for their assistance in organising farm visits and stakeholder meetings during the mission. A full project report will be available on the InfoVeg website at [ausveg.com.au/infoveg](http://ausveg.com.au/infoveg).

This project has been funded by Hort Innovation using the vegetable research and development levy, contributions from Australian vegetable growing businesses and contributions from the Australian Government.

Project Number: VG15703

**Hort  
Innovation**  
Strategic levy investment

**VEGETABLE  
FUND**



## FAIR EMPLOYMENT CERTIFICATION PILOT UNDERWAY

Since its commencement in March 2017, the Fair Farms Initiative has delivered seminars and workshops to growers to foster improved employment practices across the Australian horticulture industry. The workplace relations module within Growcom's Hort360 program is a key tool to help growers achieve compliance with Australia's Fair Work laws. Growcom is currently working with Freshcare to translate the module into a new auditable code to certify fair employment within farm businesses.

The need to demonstrate fair employment practices has emerged as a significant challenge for a growing number of vegetable producers.

Driven by negative media about the exploitation of farm workers, many of Australia's major retailers have moved to implement SEDEX-based self-assessments or audits with their major suppliers. These retailers have indicated that within the next two years, they will seek verification of worker welfare from the growers who supply their major suppliers.

A key element of the Fair Farms Initiative is putting in place a means for Australian horticulture producers to certify to their customers that their workers are treated fairly and that their employment practices meet all requirements under the Fair Work Act.

To achieve this, the workplace relations module of Growcom's Hort360 program has been translated into an auditable fair employment standard under Freshcare.

Over the last year, the Fair Farms Initiative team has been working closely with the Produce Marketing Association (PMA) behind the scenes to negotiate with retailers that this

### INITIATIVE ACTIVITIES

Since it commenced in March last year, the Fair Farms Initiative has worked to raise the profile of fair employment within Australia's horticulture sector and provide practical assistance and information to growers. The initiative was formally launched by Assistant Minister for Agriculture and Water Resources Senator the Hon. Anne Ruston at Hort Connections 2017 in Adelaide. In its first year, the initiative supported growers in Queensland, the Northern Territory and South Australia to work through the Hort360 workplace relations module. Workplace relations specialist Donna Mogg delivered seminars for growers in Adelaide, Darwin, Katherine and Kununurra, as well as the Queensland Workplace Essentials workshops.

The work continues this year, with seminars planned for Western Australia early in 2018 and the inaugural Fair Employer Award to be established. The team will also work with organisations such as the Salvation Army and regional councils to tackle persistent problems such as the availability and quality of accommodation for farm workers in regional areas.

A key element of the Fair Farms Initiative is putting in place a means for Australian horticulture producers to certify to their customers that their workers are treated fairly...

offers a more practical approach to verifying fair and ethical employment in Australia's fresh produce supply chains. The key benefit of the Freshcare-based approach is its specific focus on Australian issues and compliance with Australian employment laws.

The new Freshcare code has been drafted and the training, audit and certification process is being piloted over the coming months with horticulture businesses in Queensland, Western Australia and northern New South Wales.

The team aims to ensure that Freshcare Fair Employment certification will become available to the industry by mid-2018. Stay up-to-date with progress on discussions with retailers through this column.

### INFO

To register your interest in a Fair Farms seminar or Hort360 workplace relations risk assessment for your business, contact Annabel Hutch at Growcom on 07 3620 3844 or ahutch@growcom.com.au.

The Fair Farms Initiative is delivered by Growcom in partnership with Freshcare and other industry groups. It is supported with funds from the Fair Work Ombudsman community engagement grants program.

This communication has been funded by Hort Innovation using the vegetable research and development levy and contributions from the Australian Government.

Project Number: VG15027



## THE VEGETABLE R&D LEVY AT WORK

### STRATEGIC LEVY INVESTMENT



### WHO PAYS THE VEGETABLE R&D LEVY?

The levy is paid by growers who produce and sell 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?

Hort Innovation has two funding models for investment in research and development. The industry's levy is invested with Australian Government contributions through the Hort Innovation Vegetable Fund, which is part of organisation's strategic levy investment activities.

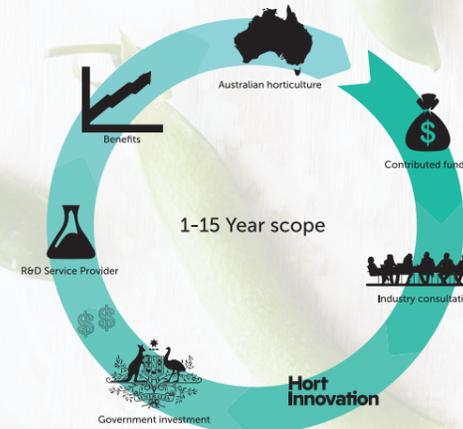
All investments through the Vegetable Fund are made with advice from the industry's Strategic Investment Advisory Panels (SIAPs) – skills-based panels made of panellists from across the vegetable industry, the majority of whom are levy-paying growers. Strategic levy investments have a one- to five-year scope and the R&D is designed to directly benefit growers in the vegetable industry. Project topics range from pest and disease management to biosecurity matters, with findings communicated through a variety of channels, including *Vegetables Australia*.

You can find information on all current strategic levy investments, and details of the SIAP, on Hort Innovation's Vegetable Fund page at [horticulture.com.au/grower-focus/vegetable](http://horticulture.com.au/grower-focus/vegetable).

The second Hort Innovation funding model is the strategic partnership initiative known as Hort Frontiers. Hort Frontiers projects do not involve levy dollars, unless an industry chooses to become a co-investor in them, through advice of the SIAP. Instead, Hort Frontiers facilitates collaborative across-horticulture projects involving funding from a range of co-investors. These projects have a long-term focus and are designed to solve major and often complex challenges to secure the future of Australian horticulture.

You can read more about Hort Frontiers and the seven funds within it at [horticulture.com.au/hort-frontiers](http://horticulture.com.au/hort-frontiers).

### HORT FRONTIERS



### HOW CAN GROWERS GET INVOLVED?

All vegetable growers are encouraged to share their thoughts and ideas for the research they want to see, both within the levy-specific Vegetable Fund, and within the wider Hort Frontiers strategic partnership initiative.

Ideas can be submitted directly to Hort Innovation through the online Concept Proposal Form at [horticulture.com.au/concept-proposal-form](http://horticulture.com.au/concept-proposal-form). Growers are also encouraged to reach out to the SIAP panellists for the industry (available from the Vegetable Fund page).



This project has been funded by Hort Innovation using the vegetable research and development levy and funds from the Australian Government. For more information on the fund and strategic levy investment visit [horticulture.com.au](http://horticulture.com.au)



## PRODUCT DEVELOPMENT WORKSHOP HELPS GROWERS COLLABORATE AND INNOVATE

The third Vegetable Innovation Workshop brought together an all-new speaker line-up to help growers generate innovative product ideas and inspire them with success stories. The theme for this event was 'Developing valued, visible vegetable products' and was held at Monash University last year. Jarrod Strauch shares some of the day's highlights.

Even though consumers know vegetables are the healthiest food they can buy, it can be difficult to convince them to make more space in their shopping trolleys for our industry's produce.

In a retail sector that's continually evolving to meet consumer demands, it's vital the vegetable industry keeps up by offering innovative food products that grab consumers' attention and add the value they're looking for.

To help growers equip themselves with knowledge about new product development, MacTavish West Pty Ltd coordinated the third *Vegetable Innovation Workshop: Developing valued, visible vegetable products* at Monash University's Food Innovation Centre on 4 August 2017. This was part of the project *Vegetable Industry Education and Training Initiative* (VG15028, VegPRO), a strategic levy investment under the Hort Innovation Vegetable Fund.

### IDEAS AND INSIGHTS

Generating innovative ideas is key for any grower looking to enter the market with a new product or work with a manufacturer to create one.

To lead the day, Hazel MacTavish-West from MacTavish West Pty Ltd discussed the opportunities for product development, and Susie White from Eat.Drink.Innovate gave attendees a mental toolkit for creating innovative product ideas.

Ms White explained that growers can generate new ideas by using the 'SCAMPER' method to think about how to Substitute, Combine, Adapt, Modify, (re-)Purpose, Eliminate and Reverse core elements of vegetables and veggie products.

For example, adapting vegetables to new uses – like processing zucchini to turn it from a refrigerated item into a shelf-stable product – can help create new consumption opportunities and increase consumer intake.

Alternatively, finding ways to substitute vegetables for other ingredients can help sway consumers to increase their vegetable purchases without having to make major adjustments to their eating patterns.

Dr Denise Hamblin from Colmar Brunton also shared insights

into how consumers think about food, with a focus on the next generation of shoppers and their shift towards a 'rebellion' mindset, including controlling their nutritional intake through customised diets.

Dr Hamblin equipped growers with practical information about consumers' packaging preferences – such as the way novel packaging shapes attract attention and off-shelf physical markers near products can draw sales.

Using colour to create product expectations, such as green to communicate freshness or earthy tones to suggest 'authenticity', can also improve consumer perceptions and generate sales.

### SUCCESS STORIES

Some of the most valuable information from the workshop came from the experiences of industry members who had transformed their businesses with value-added products.

Susie Daly from Daly Gourmet Potatoes took the group through the creation of the company's pre-prepared potato salads and its innovative decision to branch into alcoholic drinks. By creating value-added products that meet consumer needs for convenience, and finding new uses for produce that would otherwise face rejection, Ms Daly said that the company has created valuable alternate income streams.

Later, Nicole Lenske from OneHarvest shared the company's learnings from the LoveBeets range – a collection of fresh-cooked baby beetroot products. Ms Lenske highlighted the importance of online branding for products, and how LoveBeets integrated social media to build its internationally-successful brand.

Ms Lenske also discussed what the company learnt from its attempts at an 'Infused' line, emphasising the importance of achieving consistent product quality and managing consumer expectations about shelf life.

As Ms Lenske explained, even factors like in-store location can influence success: many consumers go to the deli for ready-to-eat products or snack plates and use the fresh-cut produce fridge for salad ingredients. Knowing when (and how)

consumers will eat your product can help you target the best placement and avoid inadvertently locking out potential buyers.

### OPPORTUNITIES AND RESOURCES

The workshop also featured industry experts who shared knowledge about packaging innovations, resources and opportunities available for growers ready to step into new product development.

Angela Child from Inpact Innovation and Gilad Sadan from N.A.V.I Co. Global discussed how packaging can add value and shelf-life to vegetables, as well as open new product categories.

Attendees heard how consumers are eager to avoid waste, which motivates them to seek pre-packed products and greater shelf-life for their vegetables, but this can also deter them from the plastic packaging that makes these options possible.

Education about packaging formats, including their purpose and environmental footprint, can result in major improvements to consumer perceptions and tap into new meal occasions.

With industry funds going towards a range of product development and consumer alignment activities, Queensland vegetable grower Belinda Adams discussed how Hort Innovation and strategic levy investments can help growers looking to begin their own product innovation, including the online resources guide that has been created to help connect growers and service providers.

Finally, Dr Angeline Achariya from Monash University's Food Innovation Centre discussed how to make products stand out on the supermarket shelf and how the Innovation Centre can help growers prototype and test their product ideas. Ms White capped off the day by leading a collaborative ideation session.

With such a jam-packed line-up of speakers and great networking opportunities, as well as tours of the Food Innovation Centre's virtual supermarket and packaging testing facilities, it's difficult to do the workshop justice in one magazine article – so the AUSVEG team has also produced InfoVeg TV and InfoVeg Radio episodes interviewing speakers and growers at the event.

Go online to enjoy these great resources, and be sure to sign up for the next workshop to take advantage of the huge benefits on offer.

### INFO

VegInnovations resources are available online at [veginnovations.com.au](http://veginnovations.com.au).

InfoVeg Radio is available online at [ausveg.com.au/infoveg-radio](http://ausveg.com.au/infoveg-radio) and InfoVeg TV can be viewed at [ausveg.com.au/infoveg-tv](http://ausveg.com.au/infoveg-tv).

This workshop was delivered as part of the VegPRO project, which has been funded by Hort Innovation using the vegetable research and development levy and contributions from the Australian Government.

Project Number: VG15028



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## OVERCOMING CHALLENGES IN PURSUIT OF A SUSTAINABLE FUTURE



**NAME:** James Turner  
**AGE:** 31  
**LOCATION:** Yatala, Queensland  
**WORKS:** Riverdale Herbs, a family-owned and operated business focused on providing a progressive and innovative selection of leafy greens and culinary herbs  
**GROWS:** Watercress and culinary herbs

### HOW DID YOU FIRST BECOME INVOLVED IN THE VEGETABLE INDUSTRY?

Having grown up in regional Queensland, I've always enjoyed the rural lifestyle. So I jumped at the chance when my parents asked me if I would be interested in helping to bring the business into the 21st Century.

### WHAT DOES YOUR ROLE IN THE BUSINESS INVOLVE, AND WHAT ARE YOUR RESPONSIBILITIES?

My role within the business is that of a production manager; that is, developing the business through trialling seed varieties to ensure we are delivering the best possible product and introducing them to our local markets and restaurants.

### HOW WOULD YOU DESCRIBE YOUR AVERAGE DAY AT WORK?

My time is split between our two operations, although typically it would involve conducting the daily quality assurance (QA) checks of the hydroponic systems, seeding, general farm maintenance and liaising with clients for future orders.

### WHAT DO YOU ENJOY MOST ABOUT WORKING IN THE VEGETABLE INDUSTRY AND HOW DO YOU MAINTAIN YOUR ENTHUSIASM?

I've worked in two industries in my career, agriculture and engineering. They are both very similar in that they are both fast-paced and stressful, but rewarding and fulfilling. I love that.

### WHAT ARE THE BIGGEST CHALLENGES YOU FACE WORKING IN THE INDUSTRY, AND HOW DO YOU OVERCOME THEM?

Definitely environmental and climatic conditions are our biggest challenge. In March 2017, we endured one of the worst floods the Albert River has produced thanks to Cyclone Debbie. We knew that a flood was coming, so we prepared for it as best we could. However, the water passed the 1974 flood level by roughly 0.6 metres, putting 90 per cent of our operation under water. As a result of this, we are moving the business to Harrisville and investing heavily in protected cropping.

### WHERE DO YOU RECEIVE YOUR ON-FARM PRACTICE ADVICE AND INFORMATION FROM?

My father has a wealth of knowledge on all things farming, so I bounce a lot of ideas off him. You have to ask the right questions though to get the answers that you're looking for. I think it is his way of constantly testing the logic of modern growing systems.

### IN YOUR OPINION, WHAT AREAS OF RESEARCH ARE IMPORTANT TO THE VEGETABLE INDUSTRY AND YOUR BUSINESS?

Watercress is one of our largest lines and we would love to see more research into the health and nutritional benefits that are particularly applicable to Australia; for example, the potential for watercress to combat melanoma skin cancer.

### YOU TRAVELLED TO EUROPE AS PART OF THE 2017 YOUNG GROWER INDUSTRY LEADERSHIP AND DEVELOPMENT MISSION. WHAT DID YOU LEARN FROM THIS EXPERIENCE?

It was great to be part of the tour and have the opportunity to network with other young growers from all over Australia. I always underestimated the value in networking, but hearing the various challenges each grower has had to overcome was probably the most beneficial lesson of the trip.

### WHERE DO YOU SEE OPPORTUNITIES FOR GROWTH IN THE AUSTRALIAN VEGETABLE INDUSTRY?

I think there is going to be a push for more living produce with less packaging in the coming years. The United States and Europe are definitely spearheading this motion and I think we should look at ways to bring this to the market as well.

### AS A VEGETABLE GROWER, WHAT IS YOUR BIGGEST ACHIEVEMENT SO FAR?

Our basil was severely impacted by downy mildew around April 2017. There is nothing worse than having to tell your customers that you can't supply. It takes so long to get them back, so the pressure was on to sort out the issue as soon as possible. We have finally been able to get perfectly healthy bunches through to the packing team and our customers.

### WHERE DO YOU SEE YOURSELF IN FIVE YEARS?

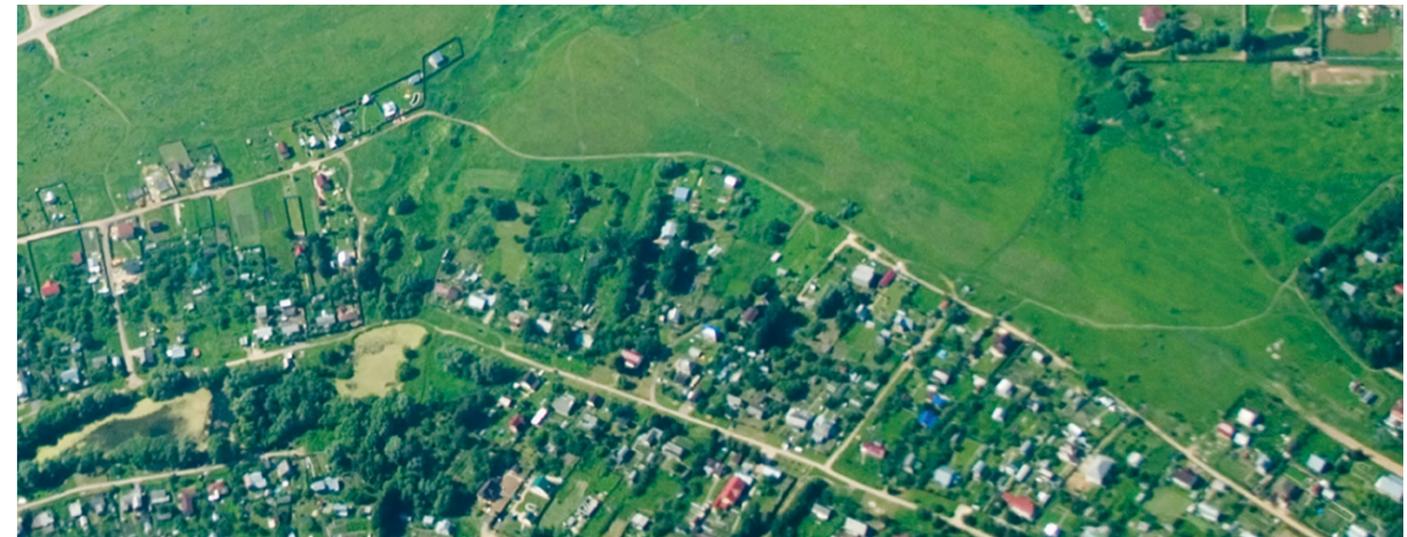
I would hope that in five years I've learnt enough and asked enough questions to allow my folks to happily retire, and ultimately take over the reins.

### WHAT IS YOUR VISION OF THE AUSTRALIAN VEGETABLE INDUSTRY IN THE FUTURE?

Automation is a hot topic and an area which I'm particularly interested in. I think the future of the vegetable industry relies on improving production systems through automation to allow growers to reduce overall operating costs.

### HOW DO YOU THINK MORE YOUNG PEOPLE COULD BE ENCOURAGED TO STUDY AND TAKE UP JOBS IN THE VEGETABLE INDUSTRY?

I remember how difficult it was at school when asked, "What do you want to be when you grow up?" I always wanted to be a farmer but at the same time I saw how hard things can get on the land, so I chose civil engineering instead. It's ironic how things change. If I was to give some advice it would be to take a gap year, and go work for a few different vegetable growers. Learn as much as you can while you're there and stay in contact with them. That's your doorway into the industry.



## URBAN BIOSECURITY COULD PROVIDE BENEFITS TO THE AUSTRALIAN VEGETABLE INDUSTRY

In this edition of *The Front Line*, AUSVEG Biosecurity Officer Madeleine Quirk discusses the potential for urban biosecurity in Australia based on learnings from overseas counterparts. Madeleine's discussion is based on the findings of AUSVEG Biosecurity Officer Jessica Lye's recent study tour to the United States.

### DEFINING URBAN BIOSECURITY

In Australia, biosecurity measures are implemented in production regions to prevent the establishment and spread of plant pests. Urban biosecurity differs in that it addresses the implications of urban population growth and potential pathways for pests entering the urban landscape.

Urban areas can be a year-round reservoir for pests, and they pose a particular threat to horticultural industries due to the diverse range of host crops and ornamentals that would not be found in production areas. In addition, major growing regions around Australia are commonly located within 200 kilometres of major city centres, which are also sites of major air and sea ports.

The strong link between pest transmission and international trade, combined with growing numbers of visitors moving through our airports each year, makes it important to review biosecurity measures currently in place in urban settings, as well as reflect on initiatives that may further bolster biosecurity in these zones.

### LEARNING FROM THE UNITED STATES

In the United States, urban plant biosecurity is practiced widely and it is also largely associated with tertiary education institutions. Historically, US Land Grant Universities were established to encourage a shift from philosophical to practical education. This included a focus on agricultural studies.

Today, urban biosecurity aims to encourage public responsibility by training members of the public to monitor their own crops and ornamentals. Three important initiatives exist in the biosecurity space: the Master Gardeners program, the Urban Integrated Pest Management (IPM) Program and the First Detector Program.

Master Gardeners programs are facilitated by Land Grant Universities, which provide horticultural training to volunteers who then may educate the community about horticultural practices. The Master Gardeners often undergo 'First Detector' training, where they are trained to recognise and report exotic pests.

Urban IPM Programs address knowledge gaps in pesticide use among urban dwellers and train urban dwellers to understand pesticide labels and rotation of chemistry. They have been successfully established across major urban areas in the United States, such as at the University of California, where extension officers have been employed to maintain plant biosecurity in the urban landscape. In the instance of a suspect exotic detection, the Urban IPM Program trains urban dwellers to report suspect pests.

### IS THERE SCOPE TO IMPLEMENT URBAN BIOSECURITY INITIATIVES IN AUSTRALIA?

Urban regions can mediate biosecurity threats by acting as 'buffer zones' for pest incursions, whereby pest populations are suppressed in urban areas for as long as possible before reaching agricultural regions (this is currently the case with Citrus Greening in Los Angeles).

Based on the success of urban biosecurity initiatives in the United States, it is reasonable to suggest that urban biosecurity programs could be implemented in major cities across Australia. This would target harmful plant pests at the source when incursions have originated in urban areas, which is not unlikely given that ports of entry are most commonly located within or close to the city limits.

Education and awareness may be the best tools towards mitigating biosecurity threats in metropolitan Australia, especially with increasing population density and globalisation.

### AUSVEG VEGETABLE AND POTATO BIOSECURITY PROGRAM UPDATE

It has been an eventful six months for the Vegetable and Potato Biosecurity Program officers. Jessica Lye and Callum Fletcher have facilitated a number of workshops and seminars that focus on biosecurity planning, surveillance and challenges faced by the vegetable industry.

Callum headed up north to Queensland and the Northern Territory where he facilitated a series of biosecurity workshops. The series kicked off with Queensland workshops in Mareeba, followed by a biosecurity surveillance workshop in Cairns. From there, Callum made his way to Gatton to facilitate a farm biosecurity planning workshop, before visiting the Northern Territory to conduct a biosecurity surveillance workshop in Berrimah. More recently, Callum presented on biosecurity surveillance at a seminar at the Victorian Department of Economic Development, Jobs, Transport and Resources (DEDJTR).

After Jessica returned from her study tour to the United States last July, she delivered a presentation on the importance of overseas biosecurity initiatives to the Department of Agriculture and Water Resources in Canberra. Jessica was also invited to speak as a prelude to the Science Protecting Plant Health conference in Brisbane in September, focusing her discussion on the imminent threat of the brown marmorated stink bug to the Australian vegetable industry,

and the devastating effects of the pest in the United States. Jessica also delivered a speech at the vegetablesWA Grower Summit, which focused on the main challenges of biosecurity in Australia.

### EXTENSION ACTIVITIES

In other news, AUSVEG Biosecurity Officers are working with National Vegetable Extension Network (VegNET) officers to deliver biosecurity seminars across the country.

Callum and Jessica spoke at a biosecurity planning session in Clyde, Victoria. Jessica also delivered a workshop at the Forthside VegNET workshop in Tasmania, where she covered topics including shared lessons from the US Study Tour and biosecurity planning. Jessica then worked with VegNET extension officers to facilitate a biosecurity workshop in Bowen, Queensland.

The program officers are about to embark on a 'train the trainer' initiative. This initiative will provide facilitated farm biosecurity planning training for VegNET officers and other interested extension officers. Officers are also working closely with the EnviroVeg Program Coordinator Andrew Shaw to develop a farm biosecurity component of the EnviroVeg manual.

Additionally, Madeleine Quirk is in the process of developing fact sheets for vegetable pests. These fact sheets are expected to be released in 2018.

### INFO

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, contact AUSVEG National Manager – Science and Extension Dr Jessica Lye at [jessica.lye@ausveg.com.au](mailto:jessica.lye@ausveg.com.au) or AUSVEG Biosecurity Officer Madeleine Quirk on 03 9882 0277 or [madeleine.quirk@ausveg.com.au](mailto:madeleine.quirk@ausveg.com.au). The Vegetable and Potato Biosecurity Program is funded by the Plant Health Levy.

This communication has been funded by Hort Innovation using the vegetable research and development levy and contributions from the Australian Government.

Project Number: VG15027



### IS YOUR PROPERTY IN NEED OF A NEW FARM BIOSECURITY SIGN?

Would you like to receive a free biosecurity gate sign? All you need to do is send us a photo of you with your sign, once it is in place on your farm. Email [science@ausveg.com.au](mailto:science@ausveg.com.au) to express your interest.



A bee balloon, used to map bee populations in farms across Australia. Image courtesy of Hort Innovation.

## CROSS-POLLINATION OF INFORMATION HELPS SECURE THE FUTURE OF HORTICULTURE

The Pollination Fund is one seven funds developed under Hort Frontiers, a strategic partnership initiative led by Hort Innovation that facilitates collaborative, cross-horticulture projects. *Vegetables Australia* spoke to Hort Innovation R&D Lead Dr Anthony Kachenko about the fund, its current projects and the benefits that cross-collaboration provides to the horticulture industry.



The European honeybee.

A focus on longer-term, complex and traditionally underinvested themes identified as critical for Australian horticulture in 2025 has led Hort Innovation to develop the Hort Frontiers strategic partnership initiative.

The Hort Frontiers funding model has been expanded to better equip Australian horticulture for the future. It incorporates seven funds that facilitate collaborative projects from a range of co-investors.

After extensive consultation within industry groups around the key areas for cross-industry horticulture investment, seven dedicated funds were announced: Advanced Production Systems; Asian Markets; Fruit Fly; Green Cities; Health, Nutrition and Food Safety; Leadership; and Pollination.

### FOCUS ON POLLINATION

The Hort Frontiers Pollination Fund was developed to create a sustainable and resilient horticultural industry through improved pollination options and services, as pollination is considered a priority for most horticulture industries. The fund aims to enhance and support existing pollinators and identify the most effective pollination methods for various horticulture crop types.

Pollination is the transfer of pollen grains from one flower to another, and is critical in 60 per cent of agricultural production. It helps the growth of many fruits, vegetables, nut and flower species, and in some instances, can increase crop yield. In Australia, it is estimated that pollination-dependent crops are worth over \$4.3 billion per annum, with a direct contribution from honeybees estimated to be over \$1.6 billion.

Hort Innovation R&D Lead Dr Anthony Kachenko said there are three areas of strategic intent for the Pollination Fund: managing European honeybee; optimising crop pollination efficiency; and identifying alternative crop pollinators.

“Our program aims to invest evenly across the three investment themes. We have two foundation projects that are dealing with the management of the European honeybee as well as understanding a bit more about what pollinators are in the crop and what’s doing the work for each industry,” Dr Kachenko said.

Safeguarding Australian horticulture from various shared challenges within the honeybee industry, including the threat of varroa mite, is another focus of the Pollination Fund. This mite is believed to be a major factor behind widespread European honeybee colony collapses in countries such as the

United States, Canada and Japan. Moving into 2018, Australia is the last country in the world to be free of varroa mite.

### CROSS-COLLABORATION: A MAJOR THEME

Many stakeholders are involved in the Pollination Fund, with 24 out of the 34 horticulture industry members representing industries that rely on pollination to achieve higher yields and secure the profitability of growing operations.

As part of the fund, Hort Innovation has invested in research projects including the National Bee Pest Surveillance Program, a project supported by Plant Health Australia with co-investment from the honeybee and grains industries.

“The National Bee Pest Surveillance Program is a biosecurity program across Australia to stop the incursion of varroa mite, one of the biggest threats to the industry, as well as 13 other high priority pests,” Dr Kachenko said.

Another project within the Hort Innovation Pollination Fund focuses on the effect of plant nutrition on the ability for a crop to be pollinated, and in-field methods to enable growers to determine the nutrient status and chemical composition of leaves and fruits, which is supported by the University of the Sunshine Coast.

The stingless bee as an alternative pollinator is also a key focus of a project that has been developed in conjunction with Western Sydney University. This will investigate the use of stingless bees to ease Australia’s dependency on the European honeybee – a pollinator that is vulnerable to threats, particularly varroa mite.

“The stingless bee is a native Australian bee but we really don’t know much about its effectiveness in a range of crops.

“In particular, we will be looking at some vegetable crops such as cucumber and capsicum, and using them in different environments (field versus glasshouse),” Dr Kachenko said.

“One of our big partners is Western Sydney University and this project works well with its new National Vegetable Protected Cropping Centre.”

The Pollination Fund is also contributing to larger programs such as the Rural R&D for Profit Program, ‘Securing Pollination’, being led by AgriFutures Australia. This includes research into smarter farming practices to increase the profitability and security of production and pollination-dependent crops in Australia, as well as exploring the delivery of sustainable pollination services for Australian crops by improving the understanding of pollination requirements.

A focus of many projects within the Pollination Fund is collaboration with international organisations, including Plant & Food Research New Zealand and organisations in India, to maximise benefits for Australia.

“It’s a great time for collaboration between Australia and overseas. The collaboration with Plant & Food Research New Zealand helps us to understand varroa mite a bit more and allows us to conduct research on a pest not currently in Australia,” Dr Kachenko said.

“A lot of our work with Western Sydney University has been using collaborators in India, as there are a lot of stingless bee populations that are in the same family as ours being utilised for crop pollination. We have built projects that utilise concurrent programs – so we don’t fund the work overseas – but the researchers work together, so it’s a nice way to share results and gain more knowledge.”

### INDUSTRY BENEFITS

Dr Kachenko said that Australian horticulture was in a great place to invest in research and technologies that can help the industry prepare for the future and secure pollination options and services. However, there are other areas that need to be addressed.

“It’s a unique issue for Australia as there are different regions that have different issues, such as Tasmania having bumble bees while mainland Australia doesn’t. We have our own issues that we need to address that can’t be dependent on international sources,” Dr Kachenko said.

“I encourage growers to watch this space. Now that projects have been up and running for a little while in the Pollination Fund, we’ll start seeing some tangible outcomes and there will be a lot of grower outreach. It’s about making sure that growers know what’s happening so they are able to pick up the results of the work.”

### CURRENT PROJECTS UNDER THE HORT FRONTIERS – POLLINATION FUND

PROJECT NUMBER	PROJECT TITLE	SERVICE PROVIDER
MT16005	Enhanced National Bee Pest Surveillance Program 2016-2021	Plant Health Australia
PH15000	Strengthening and Enabling Effective Pollination for Australia	Plant & Food Research New Zealand
PH15001	Healthy bee populations for sustainable pollination in horticulture	Western Sydney University
PH16000	Stingless Bees Effective Managed Pollinators for Australian Horticulture	Professor James Cook, Western Sydney University
PH16001	Increasing yield and quality in tropical horticulture with better pollination, fruit retention and nutrient distribution	University of the Sunshine Coast
PH16004	Securing pollination for productive agriculture: guidelines for effective pollinator management and stakeholder adoption	AgriFutures Australia

### INFO

To learn more about the Pollination Fund and submit an idea for a future project, visit [horticulture.com.au/co-investment-fund/pollination-fund](http://horticulture.com.au/co-investment-fund/pollination-fund). *Vegetables Australia* will profile each Hort Frontiers Fund in further detail in future editions of the magazine.

For more information, please visit [horticulture.com.au](http://horticulture.com.au) or contact Pollination Fund R&D Manager Ashley Zamek on 02 8295 2388 or [ashley.zamek@horticulture.com.au](mailto:ashley.zamek@horticulture.com.au).

These projects have been funded by the Hort Frontiers Pollination Fund, part of the Hort Frontiers strategic partnership initiative developed by Hort Innovation, with funding from a range of co-investors and contributions from the Australian Government.





Samphire is an example of an Australian native vegetable that shows the most potential for marketability to consumers.

## PROJECT PROFILES GROWTH POTENTIAL FOR NATIVE VEGETABLE VARIETIES

There are more than 6,500 native food species in Australia, but according to Australian Native Foods & Botanicals, consumer demand is far outstripping supply. Jarrod Strauch spoke to Colmar Brunton about the potential to capitalise on this demand with native vegetable varieties.

Australian consumers are eager to experiment with new tastes – but instead of being exotic imports, the next big flavours could come from produce growing over the back fence.

To investigate the marketability of Australian native vegetable varieties, Colmar Brunton undertook consumer research in the project, *Understanding consumer triggers and barriers to consumption of native vegetables and Asian vegetables* (VG15071), a strategic levy investment under the Hort Innovation Vegetable Fund.

As explained by Colmar Brunton Research Director Dr Denise Hamblin, the project started with a literature review that identified around 40 to 60 native vegetables that are commercially available.

“Then we went on to do some focus groups, where we talked to consumers about native vegetables and showed them specific vegetables, and they took them home and cooked them,” Dr Hamblin said.

From this feedback, the research team produced a list of varieties that showed the most potential and undertook further concept and product testing with consumers.

This list included a range of native vegetables: youlk, kulyu, samphire and Warrigal greens. It also included other native foods such as saltbush, pepperberry, lemon myrtle and native thyme, which have potential to be used with vegetables.

### PROJECT FINDINGS

From their research, the team found that native vegetable varieties can capitalise on two of the biggest consumer trends around mainstream produce: novelty and nutrition.

Australians are interested in experimenting with new ingredients, and with native produce representing a relatively untapped market, there’s huge potential to target curious consumers. This novelty can be combined with communicating the nutritional benefits of individual varieties to create an appealing prospect for consumers looking for new ways to tailor their diets.

“We’re heading into a time – in terms of any produce and anything people are putting into their mouths – of food as medicine. What’s good for me personally; how can I be the very best version of me in terms of what I consume,” Dr Hamblin said.

The project also found that native food varieties have their

own unique selling point based on one key fact: Australians love having their own version of something.

This local pride is a natural boost to native food’s marketability, and Colmar Brunton found that weaving this messaging into how varieties are described can increase their appeal.

While there are still some barriers to purchase for consumers, these largely align with those that exist in some form for all unfamiliar vegetables: not knowing what they taste like, or how to cook them, or how to store them.

### THE WAY FORWARD

Bringing the findings together, Colmar Brunton produced recommendations for the industry to manage barriers to purchase and maximise consumer appeal for individual varieties. For example, youlk can be described as a ‘bush carrot’, while kulyu can be described as a ‘native sweetpotato’.

Using these comparisons alongside varieties’ names and flavour descriptions taps into local pride and communicates key traits to help consumers understand their cooking and storage needs.

A key to success in making these connections with consumers is the integration of Indigenous Australian cultural knowledge, working alongside the Indigenous population to grow the sector and benefit-share as it grows supply to meet demand.

Dr Hamblin said she sees a bright future for the sector.

“We do a lot of trends research for fast-moving consumer goods, and native foods and ingredients are definitely on the radar for the next three to five years,” she said.

“It’s really a ‘watch this space’ situation.”

**INFO**

Growers interested in the project’s findings or a copy of the full report can contact Hort Innovation Vegetable Consumer Alignment Specialist Sarah Robins on 02 8295 2300 or sarah.robins@horticulture.com.au.

This project has been funded by Hort Innovation using the vegetable research and development levy and contributions from the Australian Government.

Project Number: VG15071




## VEGGIE STATS: SWEET CORN

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 provides an update on sweet corn production.

The following Veggie Stats article has been developed specifically to give readers a detailed snapshot of the key facts and figures on sweet corn. Veggie Stats utilises data from the *Australian Horticulture Statistics Handbook – Vegetables and Harvest to Home*, funded by Hort Innovation using the vegetable research and development levy and funds from the Australian Government, and Global Trade Atlas.

It is important to note the data itself provides a broad indication of the performance of sweet corn 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.

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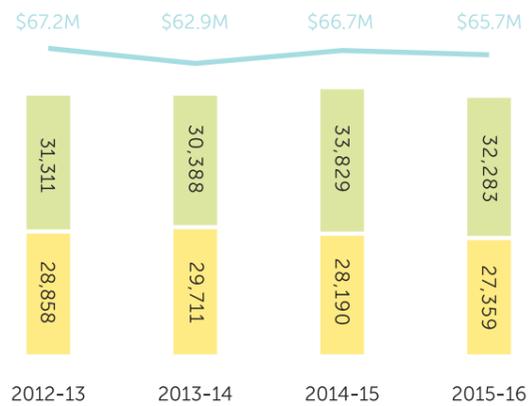
\*Will vary depending on wheel track

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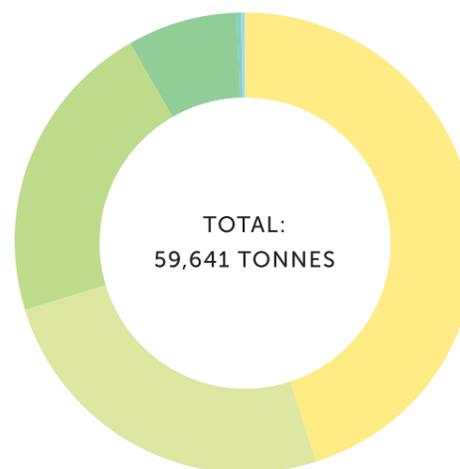
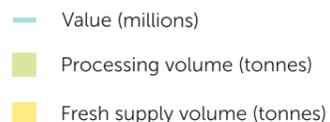
# VEGGIE STATS: SWEET CORN



## FRESH SWEET CORN PRODUCTION AND VALUE

- Australia produced just under 60,000 tonnes of fresh sweet corn in the 2015-16 financial year.
- Australia produced around \$65.7 million of sweet corn in 2015-16, down from around \$66.7 million in 2014-15.

Source: Australian Horticulture Statistics Handbook - Vegetables, Hort Innovation, various years



## PRODUCTION BY STATE 2015-16

- Queensland consistently produces the most sweet corn of any Australian state, growing over 26,900 tonnes in 2015-16, ahead of New South Wales' total of around 15,100 tonnes.
- There were around 170 sweet corn growers and around 7,950 hectares sown to sweet corn in Australia in 2015-16.

Source: Australian Bureau of Statistics



## FROZEN SWEET CORN TRADE BALANCE

- Imports of frozen sweet corn massively outweigh our exports, resulting in a severe trade deficit overall. Most imports come from New Zealand and China, with other major importers including the United States, Thailand and Belgium.

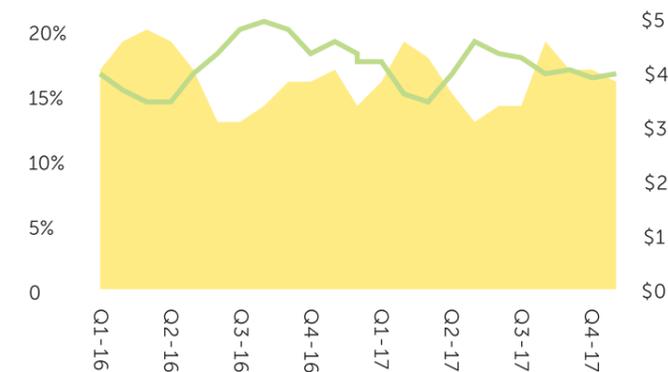
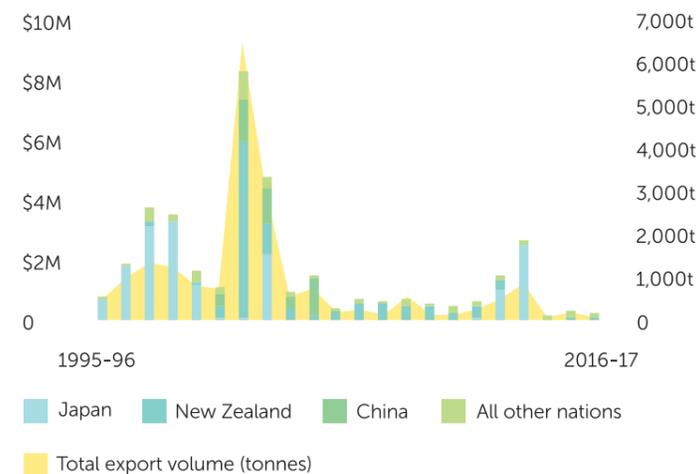
Source: Global Trade Atlas, accessed December 2017



## TOTAL EXPORTS OF FROZEN SWEET CORN

- Exports of frozen sweet corn tend to remain fairly low, except in years of high demand from particular key markets. In recent decades, these peaks in demand have come from Japan, China and New Zealand.
- Australia's export value for frozen sweet corn is disproportionately higher than overall export volume in years where Japan is a major buyer, reflecting its position as a premium market.
- Exports of frozen sweet corn into Indonesia have increased steadily over the past 15 years, rising from a value of \$37,000 in 2001-02 to a value of nearly \$130,000 in 2016-17.

Source: Global Trade Atlas, accessed December 2017



## FRESH SWEET CORN PRODUCTION AND VALUE

- For more insights into market performance and shopping behaviour for fresh vegetables, see the levy-funded Harvest to Home dashboard at [harvesttohome.net.au](http://harvesttohome.net.au).

Source: Harvest to Home dashboard, Nielsen Australia, accessed December 2017



The world record for eating sweet corn is held by Carmen Cincotti, who ate 61.75 ears of sweet corn in 12 minutes at Sweet Corn Fiesta in Florida in 2017.

# INDUSTRY ON TRACK TO MEET GROWTH TARGETS IN VEGETABLE EXPORT STRATEGY

The *Vegetable Industry Export Strategy 2020* was released in January 2017 and early indications are that the vegetable industry is well on the way to achieving the targeted growth of 40 per cent in fresh vegetable exports to AUD\$315 million by 2020. In 2016-17, the vegetable industry experienced an eight per cent growth in fresh vegetable export value to AUD\$226.5 million. The AUSVEG Export Development team provides an update on the strategy.

The *Vegetable Industry Export Strategy 2020* has been a useful document for both growers, and the industry as whole, with growers indicating that the strategy has been a valuable resource in identifying which export markets they will look to target in the future, as well as providing a snapshot of all necessary information relating to fresh vegetable exports for specific vegetable products and individual export markets.

As international trade is constantly evolving, the data underpinning the analysis will be updated each year. Additionally, the document's format has been made more user-friendly for growers and can now be accessed as an interactive PDF.

As part of implementation of the export strategy, AUSVEG is delivering the project *Vegetable Industry Export Development Program* (VG16061), a strategic levy investment under the Hort Innovation Vegetable Fund.

## REVISED ANALYSIS

The major assessment tool to evaluate export opportunities is the Market Potential Index (MPI) developed by *McKINNA et al*, which takes into account the demographics and social economics of a given market, the propensity for that market to consume a particular commodity, and Australia's competitiveness within that market for the given commodity.

Due to changes in international circumstances, and the refined methodology, there have been shifts in the opportunities identified in various export markets. The key changes include additional opportunities in markets that have a good potential for sustainable exports of various vegetable products.

To ensure a more well-rounded market analysis for key commodities, five-year trend data has now been included to give additional insight into longer-term trends and the sustainability of each commodity in the markets in which it trades.

## NEW MARKET ANALYSIS

Market analysis has now been included for additional markets including Taiwan and Europe. Taiwan is a major trading partner of Australia, seeing strong upward trends in both vegetable export volume and value over the last four years, aided by expanded market access for carrots gained in 2017 and growth in asparagus trade. With a relatively high disposable income and one of the highest per capita rates of expenditure on food in north east Asia, the addition of Taiwan into the *Vegetable Industry Export Strategy 2020* is a useful step to further growing this market.

Trade with Europe is almost exclusively in onions, and while there has been a significant drop in exports in recent years, it is still the largest market for Australian onions and provides a significant contribution to vegetable export value and volume. The reduction in trade is reflective of political restrictions as well as increased local production and improved storing techniques. The inclusion of

Europe in the strategy is important for completeness in the global trade picture and provides valuable insights as to how to improve trade with the European market.

## CHANGES IN MARKET ACCESS

In 2017, there were changes to the market access status for various vegetables in a number of markets. Some changes include market access for six new vegetable products into South Korea – broccoli, cauliflower, celery, leeks, lettuce and spinach.

These changes, as well as updated Free Trade Agreement tariff reduction schedules, have now been included in the market access section of the strategy.

## IMPROVED FUNCTIONALITY

The strategy document is now an interactive PDF, enabling the vast extent of data and information to be more easily accessible and user-friendly for growers to use when considering export opportunities for their products. Readers can now navigate the document using a tablet or mobile device by clicking embedded links between commodities and export markets as desired.

## THE VEGETABLE INDUSTRY EXPORT STRATEGY 2020

The *Vegetable Industry Export Strategy 2020* has been developed as a tool to assist growers and the vegetable industry to:

- Identify the best export market opportunities for different vegetable products.
- Collate a wide range of useful data and export information – including current trade, future growth opportunities, freight times and tariff schedules – in one user-friendly source.
- Identify areas where the industry as a whole needs to develop to create a strong and sustainable export sector into the future.

## INFO

Levy-payers that would like a copy of the *Vegetable Industry Export Strategy 2020* should contact AUSVEG on 03 9882 0277 or email [export@ausveg.com.au](mailto:export@ausveg.com.au).

This project has been funded by Hort Innovation using the vegetable research and development levy and contributions from the Australian Government.

Project Number: VG16061



## TIMELY REMINDERS FOR CROP PROTECTION APPLICATION

There are several ways to improve the application of crop protection products and maintain the equipment used. Syngenta Technical Services Lead Scott Mathew shares his tips with *Vegetables Australia* readers and answers some commonly asked questions about on-farm application practices.

There are a few things that often get overlooked in terms of spraying crop protection products and the equipment used to spray crops. Think about some of the practices you see when visiting farms that could be improved in terms of application practices. What suggestions would you make to improve them? In this column, I will focus on some of the common practices that I see.

### There is product left in the spray tank after finishing spraying. How can you minimise wastage?

There are several things you can do when spraying to avoid wasting product, including:

- Accurately measure the area you intend to spray to calculate the required amount of water and the crop protection product to be put into the sprayer so that there is no product left over. This includes accurately measuring the amount of crop protection product needed into the spray tank.
- The use of a sight gauge can often lead to an unreliable measurement of the liquid in the tank. The best way of measuring liquid is to use a flow meter fitted in the water filling line, which can be automated to make a sound when the correct amount of water has been added.

### When filling your spray tank, the tank sometimes foams up. What causes this?

Foaming up or overfilling the tank is a major cause of wastage and can lead to potential environmental contamination. The three most common causes of foaming are:

1. Leaving the induction hopper open, resulting in air being sucked in.
2. Air leaks in the pipework. To check for leaks, circulate clean water in the spray tank and inspect for any sign of bubbles on the suction side of the sprayer.
3. Adding product before there is sufficient water in the spray tank. The circulating spray mix shoots upwards inside the tank, mixes with air and creates foam.

An anti-foam can be added to the tank to reduce or hinder the formation of foam. If you do add anti-foam, you must check its compatibility with the crop protection products first. Some major manufacturers, like Syngenta, include anti-foam in select products – it is good to check this first too.

### At times you can lose track of where you finished spraying and as a result hot spots of pest and disease outbreak in that exact area. What is a simple way to avoid this?

Marking the spot where the spray runs out will prevent leaving any unsprayed areas which can harbour unwanted weeds, insects or disease infections. Re-treating areas can be costly and may exceed the maximum permitted rate and/or number of applications.

As a suggestion, carry some marker pegs in the spray unit to physically mark the spot where you ran out of spray solution.

### When cleaning your spray plant what are some basic steps?

Nozzles, booms and line filters should be thoroughly cleaned when switching between products with different modes of action or when moving onto sensitive crops. Best practice for sprayer clean-up is:

1. Always refer to the product label for full directions on washing out your application equipment.
2. Drain the spray tank and spray boom and rinse with clean water for at least 10 minutes.
3. Fill the tank with clean water (some products require the addition of 300 millilitres of household chlorine [four per cent chlorine] per 100 litres of water to effectively decontaminate the application equipment). Engage the agitation system for at least 15 minutes and then drain through the nozzles.
4. Repeat step two and then rinse thoroughly with clean water to remove all traces of chlorine bleach.
5. Nozzles and filters should be cleaned separately.
6. Dispose of all water used for cleaning.

## INFO

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

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 Hort Innovation using the vegetable research and development levy and contributions from the Australian Government.

Project Number: VG15027





Cherry Emerick, VegNET Industry Development Officer for Bowen Gumlu and far-north Queensland.

## EXTENSION UPDATES: VICTORIAN REGIONS AND FAR-NORTH QUEENSLAND

This edition, the National Vegetable Extension Network (VegNET) provides an update on key focus areas for growers in Victoria's northern, western and south-eastern regions, while in far-north Queensland, growers who are still recovering from Cyclone Debbie are making plans for 2018. VegNET is a strategic levy investment under the Hort Innovation Vegetable Fund.

### VICTORIA

Pest and disease, biosecurity and waste have dominated the VegNET team's activities in Victoria's northern, western and south-eastern regions. In partnership with the AUSVEG biosecurity team led by Jessica Lye, VegNET has delivered a Farm Biosecurity Planning workshop in Victoria.

As discussed in the session, the main reasons why growers should develop a Farm Biosecurity Plan include to:

1. Develop a strategy to reduce the movement of pests on and off farm.
2. Provide confidence to authorities that industry has the appropriate controls in place.
3. Develop a farm level response plan.

Spray application efficacy has also been discussed through a workshop delivered in Clyde in Victoria's south-east, in partnership with Syngenta and the Integrated Crop Protection project (VG13078), a strategic levy investment under the Hort Innovation Vegetable Fund. The main things to consider include:

1. Check your water rate.
2. Use the correct adjuvant.
3. Take the time to calibrate your spray rig.

Post-production management has been in the spotlight, with the VegNET team supporting a Horticulture Code of Conduct Workshop prior to the AUSVEG VIC Annual General Meeting in October 2017.

Meanwhile, turning vegetable product waste into value-added, shelf stable, nutritious and high fibre 'extruded' snacks was on the menu for tasting when the VegNET project partnered with CSIRO. The CSIRO research team has produced extruded snacks, which have impressive nutritional values, including 30 per cent protein in 100 per cent extruded broccoli. Growers at the Werribee South demonstration were able to taste the products, which are currently being assessed for their market demand.

### UPCOMING EVENTS

The upcoming 2018 training calendar in partnership with VegPRO (VG15028), a strategic levy investment under the Hort Innovation Vegetable Fund, is firming up and will be advertised through the existing monthly e-newsletter.

Future events and resources will be promoted through the newsletter. Existing resources are also available, including the popular precision agriculture technology in vegetable production

systems webinar available at soilwealth.com.au. While online, you should check out the brief video case study of the 2017 Victorian R&D Adoption Award Winner Fragapane Farms (at [youtu.be/jsde8JYo8A8](https://youtu.be/jsde8JYo8A8)), which was developed and supported by the VegNET project.

Feel free to get in contact with any of VegNET Victoria's field officers:

- Northern region – Ken Orr, 0428 502 936 or [ken.orr54@bigpond.com](mailto:ken.orr54@bigpond.com).
- Western region – Clinton Muller, 0498 192 596 or [clintonm@rmcg.com.au](mailto:clintonm@rmcg.com.au).
- South-eastern region – Carl Larsen, 0419 622 393 or [carll@rmcg.com.au](mailto:carll@rmcg.com.au).
- Social media: Twitter @GrowingVegBizs
- Visit the website: [growingvicveg.com](http://growingvicveg.com).

### BOWEN GUMLU AND FAR-NORTH QUEENSLAND

Far-north Queensland growers are making their plans for the 2018 season, but as always, in such a tropical and volatile weather climate, much is in the hands of the approaching cyclone season and the water allocation amounts, which won't be known until the next quarter.

Growers have set aside time from their busy season to keep up-to-date through a series of workshops ranging from biosecurity and Freshcare, to cyclone recovery seminars and regulation.

The grower response to such sessions was beyond expectation. It provides the region with a proactive stance on a range of topics so that our growers are better informed and can plan the coming months with greater certainty.

For those who haven't been able to make it to workshops on one of the region's most important subjects, Workplace Health and Safety (WHS), Hort Innovation has provided an easy-to-use carrot-shaped USB containing a wealth of information including forms, a suite of tools and training resources.

### 2017 SEASON IN REVIEW

The first half of 2017 was one of the most challenging for decades, with cyclonic conditions ripping apart farms during the planting season and the prices of some commodities falling sharply from an early summer, causing oversupply.

A number of growers are still recovering after Cyclone Debbie, which hit the Bowen region almost a year ago. Growers are

resilient and Mareeba growers know well the damage that cyclones can cause after suffering such weather events in previous years.

Now is the time to contact Cherry Emerick, Industry Development Officer for Bowen Gumlu and far-north Queensland, if you would like to know about any assistance on offer and what R&D innovations can be of support and enhance your current farming system to a more sustainable future.

### BIOSECURITY BEST PRACTICE

This year, growers were ever-vigilant for a range of diseases on-farm by placing insect traps, improved signage, staff training, introducing farm visitor protocols and improving management practices to comply with regulation and reduce cross-contamination.

A biosecurity consultant has spoken with stakeholders, using their input to produce a local plan. It will act as a guide to focus all government bodies and sections of the community on a whole-of-region action plan to protect what is a multi-million dollar industry.

### SOUTH KOREA EXPORT MISSION

Recently, Cherry was part of a delegation of Queensland vegetable growers and stakeholders that travelled to Seoul to gain a greater insight into the supply chain and identify opportunities

for exporting Queensland vegetables to South Korea. The relationships that were established may provide strong industry outcomes for Queensland and Australian vegetable growers in the near future. Importers, supermarket fresh produce buyers and trade officials were impressed with the high quality of produce that was presented, reinforcing the clean, green image that our industry is renowned for.

**How to keep in touch:**

- Industry Development Officer: Cherry Emerick, 0427 701 225 or [idm@bowengumlugrowers.com.au](mailto:idm@bowengumlugrowers.com.au)
- Facebook: [facebook.com/bowen.growers](https://facebook.com/bowen.growers)
- Online: [bowengumlugrowers.com.au/home](http://bowengumlugrowers.com.au/home)

### INFO

For more information on the National Vegetable Extension Network and upcoming events, please contact Adam Goldwater on 02 8627 1040 or [adam.goldwater@ahr.com.au](mailto:adam.goldwater@ahr.com.au).

*Regional capacity building to grow vegetable businesses – national coordination and linkage project* has been funded by Hort Innovation using the vegetable research and development levy and contributions from the Australian Government.

Project Number: VG15049



## INDUSTRY IN THE MEDIA



The announcement of AUSVEG's intention to consult with industry to raise the Emergency Plant Pest Response (EPPR) levies for the vegetable and fresh potato industries dominated media coverage in late 2017.

AUSVEG CEO James Whiteside appeared in print media and said the decision, if approved, will contribute to paying costs relating to tomato potato psyllid eradication activities and the Transition to Management program. Mr Whiteside noted that federal and state governments were also contributing to the response.

AUSVEG National Manager – Science and Extension Jessica Lye also featured on radio saying that the EPPR levies are the industry's most important means of contributing to emergency plant pest responses.

### AUSVEG CHAIR SETS FUTURE VISION

New AUSVEG Chair Bill Bulmer shared his vision for the future of the Australian vegetable industry in print media in December. With AUSVEG increasing its advocacy work in the new year, particularly through the appointment of a new National Public Affairs Manager, Mr Bulmer said he looks forward to working to help the vegetable and horticulture industries enter a prosperous and productive new era.

He said a stronger vegetable industry was a priority for AUSVEG and he was confident the company would lead the way in the development of a strong and united horticulture advocate.

### ECONOMIC TRENDS

Following the release of data from the Australian Bureau of Agricultural and Resource Economics and Sciences, which showed that average farm cash income for vegetable growers had risen to its highest point in 10 years, Mr Whiteside appeared in print media to comment on the findings. He noted that while this is a positive sign, many smaller growers are struggling to stay competitive in an increasingly consolidated industry.

### INFO

Communication of R&D projects in the Australian vegetable industry has been funded by Hort Innovation using the vegetable research and development levy and contributions from the Australian Government.

Project Number: VG15027





## TOMATO POTATO PSYLLID INCURSION: WHAT HAVE WE LEARNT?

On 5-6 December 2017, all government and industry parties involved in the tomato potato psyllid incursion in Western Australia gathered to debrief the incident. AUSVEG Biosecurity Adviser Dr Kevin Clayton-Greene attended the session, and has provided a snapshot of what was discussed.

AUSVEG, Nursery & Garden Industry Australia (NGIA) and the Australian Processing Tomato Research Council joined senior biosecurity personnel from all jurisdictions, including the Commonwealth, for a two-day debriefing session which focused on the tomato potato psyllid (TPP) incursion in Western Australia in February 2017.

Held from 5-6 December 2017, the first part of the two-day session also involved local (i.e. Western Australian) industries providing a frank assessment as to how the incident was handled and how it affected them. All parties were made very aware of the impact that this incursion has had upon each of the affected industries, and it was a valuable session that provided

that this process is outside of the EPPRD and handled by jurisdictions. Thus, any market access issues which arise from an incursion will occur irrespective of whether there was an EPPRD operating or not.

A side benefit of the EPPRD is that the interaction of industry with all plant health officers through the Consultative Committee on Emergency Plant Pests (CCEPP) has resulted in a much closer relationship, and this helps regulators understand practices that may assist in trade.

Understanding standard industry practice allows regulators to avoid unnecessary regulation. In other words, if standard industry practice was already addressing the problem, then as

Although there is more to be done, the increasing partnership between AUSVEG and governments in improving the biosecurity system will yield a better outcome for levy payers in the future.

a personal insight into the impact of an incursion and the associated response upon individuals and their businesses.

The debrief covered the entire incursion including those areas affected, but not directly covered, by the Emergency Plant Pest Response Deed (EPPRD). By the time this *Biosecurity brief* is published, there will no doubt have been a substantial public release of the outcomes from the two-day session.

However, one area that merits comment and has clearly been a source of confusion is the perceived relationship between the EPPRD and market access and trade.

### CLARIFYING THE CONFUSION

With a severe incursion it is inevitable that there will be market access and trade issues, but it is important to note

long as this is followed, there is no need for further regulation. For example, a washing step, as occurs with many post-harvest procedures, would be sufficient to reduce the risk of insects that may merely 'roost/rest' on a particular line of produce.

### INDUSTRY INVOLVEMENT

While it is acknowledged that it took some time to get to this point in the TPP incursion, it is nonetheless a positive outcome that there is now a much greater recognition of the role that industry can play in smoothing the path of trade, and addressing plant health concerns by getting industry involved earlier rather than later in the process. This is also now reflected in an increasing willingness on the part of the Plant Health Committee and its associated Sub-committee on Domestic Quarantine

and Market Access (SDQMA) to engage with industry at an early stage to ensure that market access is maintained or disrupted as little as possible.

There is also beginning to be a more proactive approach to developing market access protocols for pests that are yet to arrive, but which may have a substantial impact should they do so. There is also an increasing recognition among regulators that for industry, harmonisation of regulations among jurisdictions is crucial. This latter point is one which is of particular concern to all those involved in interstate trade. These small but important steps are part of developing a far more responsive and uniform approach to plant health and movement conditions.

### LESSONS LEARNT

While these improvements may be of little comfort to those caught up in past events, it does, however, indicate a willingness on the part of all involved to learn from past events to improve the future.

As an example, there are already steps being taken to ensure there is a uniform and minimally disruptive procedure in place should TPP arrive in the eastern states. This process initiated by Plant Health Australia marks a new degree of cooperation between regulators and industry.

It is also not stretching the truth to note that without the

very active involvement of AUSVEG in this area, as well as other industry parties (particularly NGIA), such an approach may have taken a lot longer to evolve.

The vegetable industry can take some pride in the fact that its views are now sought by governments at all levels on matters pertaining to biosecurity. This is a substantial change from where the industry was some years ago. Although there is more to be done, the increasing partnership between AUSVEG and governments in improving the biosecurity system will yield a better outcome for levy payers in the future.

This is not something to be taken for granted, but will require continual commitment by all parties.

### INFO

For more information, contact AUSVEG on 03 9882 0277 or email [info@ausveg.com.au](mailto:info@ausveg.com.au).

The project *Consultancy Services for Strengthened Biosecurity for the Vegetable Industry – Phase 2* is a strategic levy investment under the Hort Innovation Vegetable Fund. This project has been funded by Hort Innovation using the vegetable research and development levy and contributions from the Australian Government.

Project Number: VG15023



**WHEN IT COMES TO COPPERS, WE'VE GOT YOU COVERED**

### HYDROCOP WG

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- 500g/kg COPPER (Cu) present as CUPRIC HYDROXIDE
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- Dry-Flowable granule for ease of mixing and minimal dust
- Superior coverage and adhesion due to small particle size
- Available in 10kg bags
- Certified Organic through NASAA

### TRIBASIC LIQUID

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- Ultra finely milled to ensure optimum suspension
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### OTHER GROCHEM COPPER FUNGICIDES

- BORDEAUX WG    COPPOX WG    OXYDUL DF    RED COPPER



VegPRO Program Coordinator Sophie Lapsley discusses the program at Fresh Select in Werribee, Victoria.

## A TASTE OF VEG INDUSTRY TRAINING IN 2018

VegPRO, the vegetable industry's own education and training initiative, has launched its training plan for 2018. Project Coordinator Sophie Lapsley is reminding those interested in upskilling themselves or their staff to book their training at the start of the new year.

VegPRO is excited to launch its 'Training Plan' for 2018. Following requests and consultation with industry members, VegPRO has compiled a series of workshops around Australia to meet training requests and needs.

Training ranges from chemical handling and irrigation through to leadership and negotiations, and is aimed at all levels, from operational staff through to managers.

The project *Vegetable Industry Education and Training Initiative* (VG15028, VegPRO), is a strategic levy investment under the Hort Innovation Vegetable Fund.

### UPCOMING TRAINING

The training events have been designed to reflect the crops grown in various regions, taking into account the different learning styles and best delivery methods of those attending the workshops. Training is free to industry members.

The box-out below shows a taste of what is coming up in the first few months of 2018, however dates are still to be confirmed.

### ONLINE CALENDAR

How can you keep up with what training is available? The VegPRO training calendar will be hosted on the website from the end of January 2018.

Registrations for events will be open around 2-3 months in advance, but there will be plenty of reminders through social media and publications such as *Vegetables Australia* or the AUSVEG Weekly Update e-newsletter.

Your local VegNET representative will also be able to keep you informed of what is available in your area.

In the meantime, keep those requests coming in so that VegPRO can continue to offer valuable training for the vegetable industry.

**INFO**

If anyone is interested in these upcoming training opportunities or resources, please contact VegPRO Program Coordinator Sophie Lapsley on 0426 200 996 or [sophiel@rmcg.com.au](mailto:sophiel@rmcg.com.au) or visit [vegpro.com.au](http://vegpro.com.au). You can log a request at [vegpro.typeform.com/to/QosR2u](http://vegpro.typeform.com/to/QosR2u).

You can also follow the project on Twitter, Facebook or LinkedIn.

This project has been funded by Hort Innovation using the vegetable research and development levy and contributions from the Australian Government.

Project Number: VG15028

**VEGETABLE FUND**

Strategic levy investment

<p><b>VICTORIA</b></p> <p>15 February: Pests and disease 22 February: Irrigation 22 March: Horticulture Code of Conduct 26 April: HARPS 31 May: Negotiations</p>	<p><b>QUEENSLAND</b></p> <p>1 February: Coaching – HR 23 February and 8 March: Chemical handling 14-15 March: Negotiations 23 April: Leadership 22 May: Post-harvest</p>
<p><b>NEW SOUTH WALES</b></p> <p>1 March: Coaching – Biz Check 10 May: Post-harvest 14 May: Protected cropping</p>	<p><b>TASMANIA</b></p> <p>6-9 and 13-14 February: Chemical handling 9-10 May: Negotiations</p>
<p><b>NORTHERN TERRITORY</b></p> <p>27 February: Horticulture Code of Conduct 2 April: Coaching – Youth development 10 and 15 May: Chemical handling 31 May: Post-harvest</p>	<p><b>SOUTH AUSTRALIA</b></p> <p>15 February: Negotiations 6-7 March: Chemical handling 17 May: Irrigation</p>
	<p><b>WEBINAR</b></p> <p>13 March: Horticulture Code of Conduct</p>



Tomato potato psyllid. Image courtesy of Plant & Food Research New Zealand.

## UPDATE ON NATIONAL TOMATO POTATO PSYLLID COORDINATOR ACTIVITIES

The strategic levy investment MT16018 – *Tomato potato psyllid (TPP) National Program Coordinator* is well underway, with a Steering Committee for the project established. National TPP Coordinator Alan Nankivell has also hit the ground running, visiting Western Australian growers and listening to their TPP stories. Alan reports on his latest project activities.

At the time of writing this column, I have been in the role of National TPP Coordinator for eight weeks. This is part of the project *Tomato potato psyllid (TPP) National Program Coordinator* (MT16018), a strategic levy investment under the Hort Innovation Vegetable, Fresh Potato and Potato Processing Funds.

During my time in the role, we have established a Steering Committee with the following members: Dr Nigel Crump (ViCSPA), Callum Fletcher (AUSVEG), Geoff Raven (PIRSA), Michael Hicks (Snack Brands Australia), Simon Moltoni (WA Potatoes), Troy Cukrov (Supafresh) and myself, with AUSVEG National Manager – Science and Extension Jessica Lye as Chair. We had a teleconference on Tuesday 24 October 2017 and discussed the two primary tasks for the project, which are:

1. To develop a national action plan.
2. To recommend TPP R&D priorities.

The committee will meet four times a year. One of the meetings will be face-to-face, which is scheduled for late January 2018.

### VISITING THE WEST

The second task was to visit Western Australia and meet with key stakeholders to listen and learn from their experience of TPP. Clearly as the incursion unfolded, TPP was identified to be widely spread and it was recognised early on that it was not going to be eradicated. Plans were established under the Emergency Plant Pest Response Deed (EPPRD) to develop a Transition to Management (T2M) plan. The T2M plan was implemented in September 2017 for completion in May 2018.

Many thanks to Simon Moltoni from WA Potatoes, John Shannon and the team from vegetablesWA, Matthew Lunn (Nursery and Garden Industry Western Australia), Troy Cukrov (Supafresh), Carole Fudge (Benera Nurseries) and Rohan Prince and the Western Australian Department of Primary Industries and Regional Development (DPIRD) team for taking the time to share their stories.

The lessons learnt have provided a sound foundation for the tasks I have to achieve over the next three years.

### TRANSITION TO MANAGEMENT

The themes of the T2M plan are:

1. Surveillance around the 15 local government areas of Perth, specifically looking for the presence of *Candidatus Liberibacter Solanacearum* (CLso) – the bacterium which causes the zebra chip complex in potatoes – in TPP populations.

2. Reviewing market access and trade requirements.
3. Managing TPP by developing Enterprise Management Plans in consultation with industry stakeholders. Gavin Foord (Foord Systems) is leading the development of these plans.
4. Undertaking research into the safest methods of TPP management as well as aiming for a nationally endorsed diagnostic protocol for CLso.
5. Engaging stakeholders, both industry and government, in the progress and decision making along the way. A Steering Committee for these activities was formed during the first meeting held on Friday 24 November.

### FURTHER DETAILS

While in Western Australia I had the opportunity to get to know Gavin Foord, of Foord Systems, who is contracted under the T2M plan to develop Enterprise Management Plans for crops affected by TPP. These include tomato, chilli, capsicum, eggplant, tamarillo and sweetpotato.

As a member of the T2M Steering Committee I will report the progress with the plan in future editions of *Vegetables Australia*.

As part of the T2M plan, other state jurisdictions (Queensland, Victoria, New South Wales, Tasmania and South Australia) are all undertaking surveillance programs to determine if TPP is present. I will provide updates as the findings from the surveillance become available.

Finally, I organised a study trip to New Zealand in December 2017 to examine the management practices growers have put in place to manage the psyllids and particularly the CLso in potatoes.

I visited growers and processors in the North and South Island as well as several research facilities and industry bodies to learn from their experience. I will be reporting the outcomes of my trip in my next column.

**INFO**

For more information, please contact National TPP Coordinator Alan Nankivell at [alan.nankivell@ausveg.com.au](mailto:alan.nankivell@ausveg.com.au).

This project has been funded by the fresh potato, potato processing and vegetable research and development levies and contributions from the Australian Government.

Project Number: MT16018



Janneke de Kramer (far right) from Wageningen Food & Biobased Research contributed to the panel discussion at the Global Innovations in Horticulture Seminar 2017.



## JANNEKE LEADS THE WAY IN POST-HARVEST TECHNOLOGY

Wageningen Food & Biobased Research in the Netherlands combines knowledge of plant physiology and technology for optimal produce quality following harvest. Former head of the Post-Harvest Technology Group and now Programme Manager for Agro Food Robotics, Janneke de Kramer, presented at the Global Innovations in Horticulture Seminar 2017 and spoke to *Vegetables Australia* about her role, how she entered the horticulture industry and her proudest achievements so far.

Janneke de Kramer enjoys a challenge. Working at one of the world's premier institutes in applied research for sustainable innovations in healthy food, fresh food chains and biobased products – Wageningen Food & Biobased Research – Janneke has experience leading a team of over 25 researchers and engineers within the Post-Harvest Technology Group.

Janneke presented at the Global Innovations in Horticulture Seminar 2017 held in conjunction with Hort Connections 2017 about her research into food and post-harvest science, including the different types of post-harvest issues that technology can solve and how the quality of produce can be sustained for as long as possible. This improves the quality of food on the consumer's plates and in turn, reduces food waste.

The project *Global Innovations in Horticulture Seminar* (VG15032) is a strategic levy investment under the Hort Innovation Vegetable Fund.

### CHANGING CAREERS

Prior to becoming involved in the horticulture industry, Janneke originally studied mechanical engineering with a focus on robotics. "I had not heard much about technology in horticulture but I saw an advertisement for a job opening at Wageningen Research," she told *Vegetables Australia*.

"Wageningen Research is a really nice organisation because of the focus on practical results. But it also gave me the opportunity to research and focus on innovation, which is used in practice. I started there as a researcher for control engineering and cooling technology and throughout the years, I've learnt about produce and growing. That's how I came from welding copper and looking at metals to fresh produce."

In her presentation at the Global Innovations in Horticulture Seminar, Janneke introduced the post-harvest technology work at Wageningen Research, which covers the main factors contributing to food waste reduction: climate controlled cold chains, storage facilities, product handling and packaging.

Janneke explained common decay challenges and trends in

the sector. She also mentioned the new facilities for post-harvest technology and agro food robotics in Wageningen, including the new mobile research unit "Cool! Research on the move", which is a post-harvest lab that can be used on-farm and in the field to determine quality development and optimal post-harvest treatment for a specific site, season, crop and the supply chain.

Finally, she discussed a public private partnership project example which aims to deliver consistent high quality throughout the year and further limit losses in the chain. The objective is to make chains more intelligent, with a primary focus on quality control and phenomics. The smart chain concept is being developed and tested in existing chains, for optimisation and implementation.

The post-harvest research group works for and is funded by industry, sometimes with assistance from the Dutch Government through a subsidy the team has to acquire. The group consists of researchers with a wide range of expertise, including engineering and a range of technology (packaging, sorting, cooling technology) and measuring equipment.

### IMPACT OF INNOVATION

Janneke said in her presentation that her colleagues at Wageningen are "curiosity-driven" and are challenged to apply their knowledge to research so it has an impact.

She takes pleasure in seeing her research team develop ideas which are used in a commercial sense and the processes that occur along the way. Janneke used the Quest Program as an example – a control methodology for container refrigeration units which has resulted in a 65 per cent reduction in the energy consumption of reefer containers without diminishing the quality of the produce inside.

"We developed a new wave of cooling technology in the industry of shipping. We looked at the produce and what the quality would be. We figured it would be of the same quality but we would save half of the energy used. The result has had such an impact," she said.

### A NEW DIRECTION

On 1 December 2017, Janneke started a new challenge as Programme Manager for Agro Food Robotics, a joint initiative within Wageningen University & Research, which links over 50 experts in robotics and computer vision and the thousands of Wageningen experts in agro food application areas. This department aims to sustainably feed the world by inventing and applying new technology solutions. This includes robotics and drones, computer vision, sensing, deep learning etc.

"It's an interesting combination of a worthwhile goal (increasing food production, clean handling for food safety), advanced technology and connecting people," Janneke said.

The innovations contribute to industry in a range of sectors, from greenhouse horticulture, open field farming, post-harvest quality and fresh chains.

In this new role, Janneke is responsible for the strategy, project portfolio, communication and business development of Wageningen Agro Food Robotics. Examples of projects include the development of automated quality inspection, inline sorting of fruit and vegetables, automated harvesting of tomatoes, drone inspection of crop growth and robotic removal of weeds.

"These are all worldwide challenges that are not only relevant in Europe, but of course also in Australia, where the larger scale farms are even better suited to benefit from automation, robotics and high tech," Janneke said.

### EMBRACING INNOVATION AND DIVERSITY

Janneke said that convincing clients to invest in the latest technology and innovative ideas can be tricky.

"It's challenging to convince clients to invest in new ideas that will only pay off a number of years later. Of course, you have

to invest ahead for innovations to really kick off. Therefore it is important to explain well what the future would bring without, and how much better it can become when developing and implementing, new technologies," she said.

"The rewards might be a few years away and then you have to convince clients to work with you to get there. What we do is make a plan where you have yearly effects; so you have short-time scale effect and positive outcomes for the business. Small steps have a larger effect in the end."

Janneke noted that there are major challenges which affect horticulture around the globe and that is enticing young people, particularly women, into the field, as well as feeding the world's growing population in the new circular economy. Janneke said that the public needs to be informed about the opportunities and how interesting the industry can be.

"It's also about showing the challenges and actual practical effects. I always like that you can explain to your family what you're doing in a relatively easy way because it's close to what we feel is important," she explained.

"Go where your heart is. See what really interests you and just go for it. There's a different way in which women and men view their career, but it's important to follow your heart. If you put in the energy and share that with your colleagues and people in your network, then you will get there."

### INFO

Presentations at the Global Innovations in Horticulture Seminar 2017 are available to watch at [youtube.com/user/AUSVEG/playlists](https://youtube.com/user/AUSVEG/playlists).

This project has been funded by Hort Innovation, using the vegetable research and development levy and contributions from the Australian Government.

Project Number: VG15032



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## THE LUCKY COUNTRY PAYS DIVIDENDS FOR VEG GROWER

Lucky Khakh arrived in Australia from India 24 years ago. After spending five years driving taxis in Melbourne, Lucky left the city to work as an orchardist in northern Victoria. He then began producing vegetables and hasn't looked back. Michelle De'Lisle spoke to Lucky about his journey from Punjab to Shepparton and the challenges he has faced along the way.

Located almost 200 kilometres north of Melbourne in the heart of the Goulburn Valley, the Victorian town of Shepparton is known for its production of various fruits including apples, pears and stone fruits such as peaches, apricots and plums.

However, due to a long drought in the early-to-mid 2000s and other issues affecting the region – including the threat of the closure of processing facility SPC Ardmona – many growers decided to move away from the orchards and into the veggie patch.

One of these growers was Lucky Khakh, a former Melbourne taxi driver. Lucky and his family arrived in Australia from Punjab, India in 1994 and spent a number of years in the city before deciding to move to the Goulburn Valley. Lucky initially grew apples and pears before going back to his roots; in India, he and his family grew vegetables in their home village.

Today, Lucky runs a 90-acre vegetable growing enterprise with assistance from his wife Rupinder. Their business, L and R Khakh Pty Ltd is in production throughout the year, and crops include zucchini, broccoli, sweet corn and cauliflower. Lucky also leases another 60 acres of land to other growers in the area.

### A DIFFICULT JOURNEY

It wasn't easy for Lucky and his family when they first arrived in Shepparton. Starting a new life as an orchardist with two children under six years of age, Lucky admits that he struggled.

"When you're starting from scratch one thing you don't have is money in your hands. You have to give it to the packing sheds and pay for the labour. It was very hard for three to four years – we struggled at that time. We worked very hard in those days."

The challenges continued when Lucky decided to move into vegetable production, which was considered a niche in the region.

"Because no one here had implemented what we wanted to use, it was hard to find the seed here for whatever we needed. When we went to the shops to ask someone something, they didn't know what I needed. Nobody could give me any information into how we could do it (start growing vegetables)."

Fortunately Lucky's resilience paid off and he is considered to be the first grower in the Greater Shepparton region to become a mid- to large-scale vegetable producer.

### WEATHERING THE STORM

The weather presents many challenges to farmers and growers. When Lucky first moved to Shepparton, many parts of Victoria were in the midst of drought. In February 2009, Black Saturday occurred – searing temperatures of 45+ degrees Celsius swept across the state and sparked devastating bushfires. Lucky estimates 20 acres of his land was burnt that day.

At the time of writing this article, the state was waiting for another unprecedented weather event: a massive storm was bearing down on Victoria with flooding expected across the state, including Shepparton and the Goulburn Valley region.

Lucky was preparing for the storm to hit when *Vegetables Australia* spoke to him in early December 2017.

"We can't stop the rain," he says.

"I just clean up the ground, prepare the crops and get it into the right place and that's it – we then just have to wait."

### R&D FOCUS

Lucky has embraced the technology available to the vegetable industry, and spoke about the importance of keeping up with the times to entice the next generation onto the farm.

"I love the new technology. If the next generation stays on the farm, there have to be computerised things," he says.

Lucky also has a close working relationship with agronomists in the region, which helps to reduce the incidence of pest and disease in his crops.

But there is one element missing – a testing laboratory in the town.

"We don't have a lab here in Shepparton. We need a good lab here to check the soil tests and all the diseases within this area," Lucky explains.

"We send it away to Brisbane or Melbourne and they take weeks to come back, and by that time the crop is finished. We need a lab here so we can do that straightaway: get to whatever is damaging the crop and let me know within a day what we can do to spray and control it. There needs to be one good lab here – it's very, very important because there are a lot of vegetable growers, and even orchardists, spending a lot of money in this area."

### FUTURE HOPES

After building his vegetable growing operation from scratch, and expanding to 150 acres of crops on a 2-3 year rotation, Lucky is proud of what he has been able to achieve.

"I love being a farmer. A lot of people are doing it here and others are coming to buy a farm and do the same thing. Shepparton was mostly fruit country and now it's starting to become vegetable country," he says.

"We spend a lot of money on seed etc., but we're able to keep going all year now. I'm happy to have changed from being an orchardist to a vegetable grower."

In the meantime, Lucky is keeping his eye out for further opportunities in the Goulburn Valley region. His children are at university in Melbourne and it is not known if they'll return to work on the farm or build their own business in the agriculture sector.

"We'll see what happens in another five years when they need a job," Lucky says.



Photography by Rhonda Doyle.



## STARTING THE FARM SAFETY CONVERSATION

Statistics of workplace fatalities on Australian farms are staggering, with around one person a week losing their life as a result of an accident. Safe Ag Systems is a business that is focused on lowering these figures through education and software solutions for farmers and growers. CEO Katy Landt spoke to *Vegetables Australia* about the concept and the importance of on-farm safety practices.

A near-miss on Katy Landt's family farm involving her father, who had a collision with an electricity pole, led to the creation of Safe Ag Systems.

Following the incident, Katy's mother Caroline Graham started to research the implications for their business if the outcome was worse, along with the ways to assist farmers and growers to create safe workplaces. Surprisingly, she found that farmers and growers fall under the same umbrella as every other business when it comes to workplace safety, regardless of the size of the operation. Given this, the penalties were quite severe as their farm was significantly lacking in safety procedures.

Farm safety is paramount but often taken for granted, and the statistics reflect its importance. As of 1 September, Australia had 45 fatalities in 2017 – which equates to one death per week as a result of an on-farm accident. While the agriculture industry employs only 2.6 per cent of the population, approximately 24 per cent of workplace deaths occur on-farm.

After conducting her research into workplace safety, Caroline found that most of the information available was not applicable to farming or it was unrealistic towards the industry. So, mother and daughter put their heads together and came up with the solution of Safe Ag Systems, which provides software for both desktop and mobile, and allows farmers and growers real-time access to their work health and safety (WHS) system.

### THE IMPORTANCE OF SAFETY

Ms Landt described farm safety as incredibly important, and pointed to the changes over time which have seen it shift into greater focus in the agriculture industry.

"We have gone generations of what typically would be called 'using your common sense' but things change. For example, the types of machinery that we're dealing with and the pressure of productivity is increasing," she said.

"Also we have an ageing population in farming, so as much as they would never admit it, the reaction time is not quite as quick as it used to be, so we will find that most of the incidents are in the 65 and over age group.

"Safety is really important to get into the forefront of their minds."

Ms Landt said that taking safety seriously within a business depends on the type of operation.

"With corporate farmers, it's high up on their list and they understand they are obligated to do it; they're held responsible

by their boards and corporations. But when you get down to the smaller operations (mum-and-dad farmers), there has never been anyone to hold them accountable," she said.

"Now, agriculture has become the focus industry for Safe Work Australia. It's too big of a risk not to – the penalties are huge. We have penalties up to \$3 million nationally. To take it up a notch, Queensland has just voted in the ability to increase that penalty up to \$10 million. I think we will take it seriously once we know how and why we need to do it."

Some of the biggest on-farm risks include quad bikes, livestock and machinery. Falls from tractors and misuse of or faulty rotational equipment can also be fatal.

At a grower level, Safe Ag Systems designs software solutions so someone with a limited knowledge can get started on a trial.

The company uses desktop and mobile software which allows the user real-time access to their WHS management system, both in the office or while out in the field. It also allows the user to develop an emergency response plan as well as keep a machinery log. This streamlines and provides evidence to support the possession maintenance program.

"Just ask the question – if you have people that want to know about farm safety, we can deliver it," Ms Landt said.

In addition to the software, Safe Ag Systems runs 'Keep Safe. Keep Farming.' workshops across Australia and also conducts webinars on the subject.

"The first step towards meeting compliance is understanding why you need to do it, and having the realisation that it doesn't need to be hard," Ms Landt said.

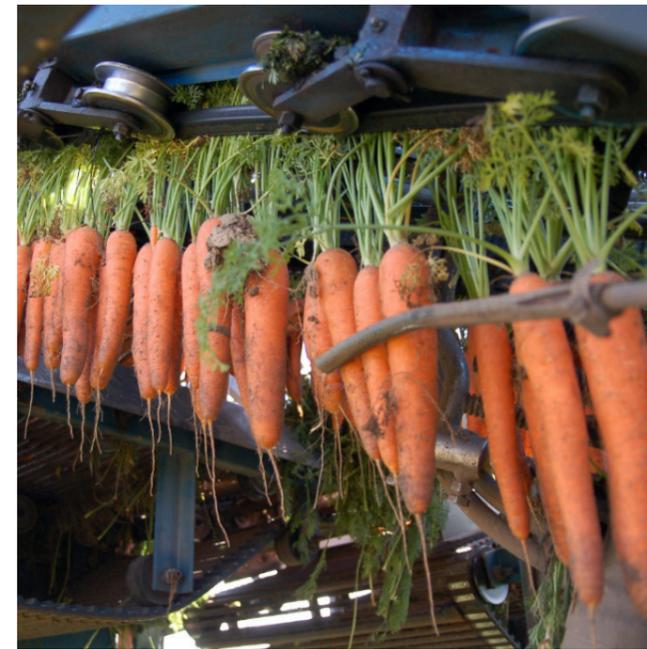
"We simplify the terminology and map out a day or a year of what your operation looks like when you've got an active safety system, and these workshops are our forums to do that."

For Australia's potato and vegetable growers, Safe Ag Systems aims to offer a solution, education and resources for farm safety, including access to a WHS Manager.

"We have created a solution and a service. It's one thing to say 'here, do this and you'll be fine', or 'give it a go, start doing this and you've got something in place', but if they don't use it, it's not going to have the end result that we want, which is obviously increasing safety and decreasing that fatality number."

### INFO

For more information, please visit [safeagsystems.com](http://safeagsystems.com).



### CAN CALCIUM CYANAMIDE FERTILISER AFFECT PYTHIUM SPP. AND OTHER SOIL BORNE DISEASES IN CARROTS?

Calcium cyanamide (CaCN<sub>2</sub>) fertiliser was tested for efficacy against *Pythium sulcatum* and *P. violae* in a grower-led demonstration trial in a commercial carrot crop in Western Australia. The wax coated fertiliser was applied according to manufacturer's instructions at 300kg/ha and 500kg/ha fertiliser to one carrot bed each. An untreated bed adjacent to each treated bed was used as a control. All standard commercial crop management inputs were applied to treated and control beds. This included nitrogen fertilisers.

The pack out figures showed that total fresh yields in the CaCN<sub>2</sub> treated beds were higher than in untreated beds by 15.4 per cent for the 300kg/ha and 18.7 per cent for the 500kg/ha treatment. The greatest difference was in the weight of processing carrots.

One reason for the higher weight of processing carrots may have been the impact of additional nitrogen from the CaCN<sub>2</sub> fertiliser that became available early in the season. While it reduced root length, it may have had an impact on the timing of bulking and thus final root weight at harvest.

DNA testing results from root and soil samples suggested that cavity spot symptoms seen on carrots after harvest may be mainly caused by *Pythium sulcatum*. Both DNA tests implied that CaCN<sub>2</sub> fertiliser may have reduced the *Pythium sulcatum* soil inoculum, the main pathogen-causing cavity spot in carrots in Australia.

In research trials with CaCN<sub>2</sub> fertiliser, soil nitrogen (N) dynamics and plant biomass production (root and shoot) should be included in assessments. If CaCN<sub>2</sub> fertiliser is used commercially, the N mineralisation from the product must be considered in the crop's N budget and application schedule. Replicated trials, including proven DNA testing for *Pythium sulcatum* and *P. violae* should be conducted to confirm the efficacy of CaCN<sub>2</sub> fertiliser on these diseases. If efficacy is confirmed, commercial use options for carrot crops under different production conditions should be investigated.

### WEBINAR RECORDING: PESTICIDES AND INSECT PEST CONTROL IN VEGETABLES WITH DR SIOBHAN DE LITTLE

Chemicals have different modes of action that can affect both insect pests and beneficial species differently. It's important to understand the risk profile of these modes of action, and how this influences resistance management as well as informing the implementation of Integrated Pest Management (IPM).

## HEADING WEST, AND CONTROLLING INSECTS WITH THE BEST

The Soil Wealth and Integrated Crop Protection projects work with growers nationally to put soil management and plant health research into practice. This edition provides an update from one of Western Australia's demonstration sites and puts the spotlight on pesticides and insect pest control with a number of useful resources. These projects are strategic levy investments under the Hort Innovation Vegetable Fund.

The key take-home messages from the webinar include:

- Know your chemical mode of action (MoA) groups.
- Get familiar with beneficial insect species relevant to your pests and cash crop.
- Don't spray unless you need to, and use monitoring, correct identification and economic thresholds to inform your spraying decisions.

You can watch the recording of this interactive session with Dr Siobhan de Little and James Maino from Cesar, facilitated by Carl Larsen from RMCg, as well as download the accompanying presentation slides from the Soil Wealth/ICP website.

### IMPLEMENTING IPM ON-FARM: EXPERIENCES FROM LEADING GROWERS, PETER SCHREURS AND SONS, VICTORIA

Peter Schreurs and Sons grow a range of vegetable crops on their 180 hectare farm in Devon Meadows near Cranbourne in Victoria. Leeks are the main crop in the business, but it also produces cos lettuce, endive, kohlrabi, wombok and radicchio.

On the farm, Darren Schreurs is responsible for controlling pest and disease in the crops. Darren first encountered IPM when he was trying to deal with mites and thrips in the leek crop.

The Schreurs trialled the predatory mite, persimilis, to control two-spotted mite in a fish tank before being comfortable to test the approach on a leek crop in-field.

Having not used insecticides on their leek crop for the past 15 years, the Schreurs can see the results in the quality of their produce and reputation with buyers.

You can read this practical case study to learn more from leading growers on the Soil Wealth/ICP website.

### INFO

For more information, please contact project leaders Dr Gordon Rogers on 02 8627 1040 or [gordon@ahr.com.au](mailto:gordon@ahr.com.au) and Dr Anne-Maree Boland on 03 9882 2670 or [anne-mareeb@rmcg.com.au](mailto:anne-mareeb@rmcg.com.au).

More information and resources are also available from the Soil Wealth/ICP website at [soilwealth.com.au](http://soilwealth.com.au) or [integratedcropprotection.com.au](http://integratedcropprotection.com.au).

The Soil Wealth/ICP projects have been funded by Hort Innovation using the vegetable research and development levy and contributions from the Australian Government.

Project Numbers: VG13076 and VG13078





## FOUR PILLARS OF INFLUENCE ON CONSUMER DIET

Freshlogic is a specialist food market researcher and analyst with deep expertise in consumer research and interpreting market conditions. Drawing on insights from Freshlogic's Mealpulse™ food consumer panel and THRUChain™ modelling, Managing Director Martin Kneebone takes a closer look at the trends influencing diet patterns.

Indications are that there is a greater understanding of the relationship between what people eat and how they feel. As such, the importance of diet is being elevated and is being influenced by factors such as seasonal patterns and technology, as well as lifestyle and social factors.

### SEASONAL

Seasonal patterns provide a platform to influence diet, both in terms of availability, preparation techniques and consumption occasions. While many vegetables are available year-round through widespread production regions, as well as protected cropping and international trade, peaks in production typically coincide with peak domestic consumption. Consumer interest in cucumbers, for example, see a clear seasonal pattern with demand increasing every summer and peaking in January. This aligns with peak production from southern states and overall higher salad consumption levels.

Preparation methods, including whether the vegetable can be consumed raw, is also a factor that can be influenced by seasonality. During the warmer months, vegetables that are tasty raw or cold are popular, and fast cooking methods such as frying and barbecuing are typically preferred. Conversely, slow cooking techniques including baking are more common during the cooler months.

As such, vegetables that are especially suited to a particular cooking method often experience seasonal peaks and troughs. There is a clear peak in pumpkin usage over the winter period,

as it needs to be cooked to be consumed and it is commonly prepared using slower cooking methods.

Seasonal holidays like the festive and new year season also influence diet, as these occasions are typically centred around a meal or cooking method. Promotional activity led by retailers and industry bodies can seek to align the event with a particular food. The Meat and Livestock Association (MLA)'s advertising campaigns have aligned Australia Day with lamb consumption for example; vegetable products that can be cooked on the barbecue are popular on Grand Final Day; while the growing interest in Halloween has resulted in expanding pumpkin ranges.

Further, retailers are also increasingly incorporating food elements into their wider promotional activities beyond sales advertising. In the United Kingdom, retailers have developed Snapchat filters and wreaths featuring Brussels sprouts, a traditional festive season vegetable. There are certain times of the year that consumers cook and prepare different meals, and there are opportunities for vegetables to expand consumption occasions by integrating into these traditions.

### TECHNOLOGY

Technology has been harnessed, and there are now new influence pathways to impact diet and household menus. These new pathways include social media, online blogs and other social commentators that use a combination of mediums. Once reliant on retail stores to reach mainstream consumers, technology has enabled anyone in the supply

chain to communicate. Consequentially, more messages are being sent and the plethora of communication options makes it easier to be heard.

These pathways can have a significant influence. The rapid rise of superfoods such as kale is evidence of this; its growing popularity was not due to retail promotion, but rather influenced by high profile chefs and foodies. The popularity of photo sharing social media has led to 'visual' appeal growing in influence, which has elevated colour and presentation to being as important as taste and quality. Being versatile and colourful, this aligns well with the natural attributes of vegetables.

### LIFESTYLE

Consumers are making longer-term health and wellness a priority and a lifestyle. Indications are that the new communication pathways enabled by technology are allowing consumers to become more informed in nutrition. They then seek to customise their diet by buying food for the health benefits they desire. Vegetables are well-placed to capitalise on this trend, being widely recognised as naturally nutritious.

Food manufacturers have responded to this trend by either including more vegetables in their products, applauding the associated health benefits of the vegetable component, or substituting other ingredients for vegetables. Some products have increased the vegetable component to reach a desired number of vegetable serves, which is then applauded on the packaging. Functional foods or nutritional information that appeal to consumer's health concerns, such as low GI, are also promoted through consumer messaging on packaging.

Recently there has also been significant ingredient innovation, with many companies updating recipes to substitute some ingredients with plant-based alternatives. This trend not only increases vegetable consumption, but indications are that this is increasing yields for vegetable growers, because product outside of aesthetic specifications can be used.

Further, interest in plant-based diets has led to vegetarian, vegan and flexitarian options becoming more mainstream. Many meal and meal kit delivery services now cater for plant-based diets; WholeFoods in the US has launched its Vegan

Holiday range including a three-course meatless menu, and UK retailer Waitrose expanded its vegetarian and vegan dishes by 35 per cent in 2017.

### SOCIAL

Food service in Australia is growing. Not only are more options more readily available through services like UberEATS, but Australian consumers are spending a great proportion of their food expenditure on eating out. According to the *Australian Bureau of Statistics Household Expenditure Survey 2015/16*, 34 per cent of household food expenditure was spent on eating out, up from 31 per cent in 2009/10.

This is significant, as food service is often a pre-cursor to retail product. Consumers can experiment with food through food service, as they are able to try different products, flavour profiles and combinations. They typically then seek to replicate meals they have enjoyed at home. In the September 2017 quarter, 50 per cent of Mealpulse™ households reported trying a new meal idea or recipe at least once a fortnight. More food service options mean more opportunities for consumers to try new ways of consuming vegetables.

The trends that are influencing consumer diets are positive signals for vegetable growers. There are more ways to get positive messages about vegetables to consumers, while the natural attributes of vegetables such as versatile, healthy and tasty closely align with the trends that guide consumer food purchasing decisions.

### INFO

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

The Economist Sub-Program is a component of the *Vegetable Industry Communication Program 2016-2019*. This project has been funded by Hort Innovation using the vegetable research and development levy and contributions from the Australian Government.

Project Number: VG15027

**Hort Innovation**  
Strategic levy investment

**VEGETABLE FUND**



Tasmanian Institute of Agriculture Vegetable Research Facility open day attendees witnessed how drones can be used in the field.

The Tasmanian Institute of Agriculture (TIA) Vegetable Research Facility threw open its doors for members from across the vegetable industry during its annual open day on 14 November 2017.

Located at Forthside in north-west Tasmania, the 54-hectare farm is a leading facility in agriculture that is mainly used for research projects in the vegetable industry. Commercial companies can pay to access the experimental areas, and other publicly funded research is conducted at the facility with the aim of supporting productivity and innovation for the industry.

There were many topics covered on the day including precision agriculture, soil health and crop protection, while updates were provided on research projects being conducted by TIA with its collaborators. Plenty of networking opportunities were also available during the event.

### CONNECTING INDUSTRY

The day began with a welcome speech from TIA Director Professor Holger Meinke.

Professor Meinke reiterated the importance of this facility to the vegetable industry as it allows TIA to share its research and connect industry with producers, and provide them with the opportunity to use the transformational technologies available.

"The program is exciting – it demonstrates what might be possible for the industry," he said.

Professor Meinke also announced that as of 1 January 2018, TIA will be recognised as a research institute in its own right within the University of Tasmania, which will lift the visibility of its work and increase its responsibilities for Tasmania.

Tasmanian Deputy Premier and Minister for Primary Industries and Water the Hon. Jeremy Rockliff MP spoke about the launch of the *Growing Tasmanian Agriculture – Research, Development and Extension for 2050* white paper, which has set ambitious targets for agriculture in Tasmania, including increasing agricultural production in the state to \$10 billion by 2050. It is currently at \$1.48 billion, a 3.3 per cent increase from 2016.

"We're very lucky to have the Tasmanian Institute of Agriculture working with the private sector and government to achieve full potential," Mr Rockliff said.

### DIVERSE DISCUSSION

Following the formalities, three guest speakers presented to the audience. Kelby Cheyne from Remote Aviation Australia explained

## TASSIE VEG FACILITY OPENS ITS DOORS TO SHOWCASE INDUSTRY RESEARCH

Research, development and extension opportunities abound at the Tasmanian Institute of Agriculture's Vegetable Research Facility, located at Forthside in the state's north-west. The facility hosted its annual open day last year, giving vegetable industry members an opportunity to tour the grounds and see first-hand what takes place during the year.

about getting started with drones in agriculture, and the practical applications of drones in the industry. Mr Cheyne also discussed the legislation when setting up a drone, describing it as "the unmanned aviation industry".

Next to present was Data Farming's Tim Neale, who spoke about precision agriculture technology and big data. He looked at the technology specific to horticulture and the benefits it could provide to the user, including real-time satellite imagery, yield mapping and weed detection technology.

Dr Jason Scott also shared a research update into the systemic downy mildew of poppies. He explained what downy mildew was, how it is spread and the consequences for the poppy industry.

### PRACTICAL ACTIVITIES

After morning tea, attendees had the opportunity to visit four stations situated around the TIA facility where they spoke to researchers and presenters from the speaker sessions.

Out in the field was TIA's John McPhee and Dr Bill Cotching, who focused on soil health and management for optimum crop yield. They explained the importance of soil health, how soil structure was essential to maintaining healthy soils and passed around examples of 'healthy' soil for comparison to 'unhealthy' soil.

Activities in the field continued with Kelby Cheyne providing a demonstration of how drones can be used in the paddock. Attendees were able to witness the heights that the drones can reach and the length of the paddock they are able to cover in a short amount of time.

Back in the speaker rooms, Dr Mark Boersma from TIA discussed the industrial hemp trials which were being conducted at the facility, while Tim Neale continued his earlier presentation with an open forum on precision agriculture and its role within the vegetable industry.

#### INFO

For more information about the Tasmanian Institute of Agriculture's Vegetable Research Facility, please visit [utas.edu.au/tia](http://utas.edu.au/tia).

This communication has been funded by Hort Innovation using the vegetable research and development levy and contributions from the Australian Government.

Project Number: VG15027



Image courtesy of Emma Lewis.

## CELEBRATING GIPPSLAND'S WOMEN IN HORTICULTURE

The inaugural Gippsland Women in Horticulture conference was held on 23 November 2017, where around 40 women from all facets of the horticulture industry gathered to discuss three dimensions of horticultural production: water, waste and wellness.

A picturesque view of the rolling Strzelecki Ranges in West Gippsland, Victoria, greeted attendees to the Gippsland Women in Horticulture event at Ellinbank.

Held at the Victorian Department of Economic Development, Jobs, Transport and Resources (DEDJTR) facility, the event aimed to inform women about opportunities in the horticulture industry including leadership, wellness and collaboration.

The Gippsland Women in Horticulture event was organised by the East Gippsland Food Cluster as part of the National Vegetable Extension Network (VegNET) Gippsland project (VG15047), a strategic levy investment under the Hort Innovation Vegetable Fund.

### FOOD FOR THOUGHT

Following the official opening and 'cracking of the capsicum', the morning session was devoted to individual speakers addressing the topics of leadership, wellness and collaboration.

Nicole Griffin from Gippsland Water provided the keynote address of "Water, Waste, Wellness". She spoke about the need for water and how its scarcity can affect the health of communities. Following a long and distinguished career in agriculture, Ms Griffin also outlined her desire to pave the way for other females to join the industry.

Collaboration between horticulture industry members working in partnership with government agencies (such as the CSIRO) and researchers was brought into focus by East Gippsland Food Cluster Executive Officer Dr Nicola Watts. She presented the challenges and opportunities facing the food sector, including the large amount of waste. Dr Watts noted that if food waste was an economy, it would be the third largest in the world behind the United States and China.

Other speakers included AUSVEG National Manager – Science and Extension Jessica Lye who spoke about current challenges for Australian plant health and outlined the biosecurity initiatives which are in action to prevent exotic pests from entering the country.

Jill Briggs from Rural Training Initiatives focused on the '#leadershipspace' and the common traits that make a great leader of a team, while ReActivate Latrobe Valley Co-Director Emma Lewis informed the audience about 'Get Stuffed', an initiative which uses the local food network to strengthen the economy, create jobs and improve community health.

### GROUP DISCUSSIONS

In the afternoon, attendees joined small groups to discuss key areas of interest including irrigation, organics, biosecurity,

mental health, industry leadership, innovation and the new generation of horticulture.

In the irrigation group, the challenges of how to best manage water and water quality on-farm were discussed, as was the need to share knowledge and information with like-minded people.

Meanwhile, there was a general consensus among members in the organic group that there needs to be a discussion about both organic and non-organic sectors sharing information, as both need to grow and produce more food.

Biosecurity group members spoke about emergency responses and how industry acknowledges biosecurity risks, as well as 'bridging the gap' of collaboration between local councils and state/territory governments.

Industry leadership focused on the challenges facing female leaders and using their passion and knowledge for horticulture, while the new generation group discussed the job opportunities available to young people in the industry and how to attract prospective workers.

Raising awareness of mental health and wellbeing was also on the agenda, and it was mentioned that more funds are needed to assist in this area.

The results from these thought-provoking discussions were then presented in three minute bites to the whole group, with plenty of takeaway messages and a wealth of knowledge generated for the entire room.

### EVENT BENEFITS

VegNET Industry Development Officer for Victoria – Gippsland Shayne Hyman said the event was a way of raising awareness of opportunities for women in the horticulture industry.

"It's all about the themes that run right across horticulture. If you broaden an event to horticulture, it means you're cross-pollinating from one area, one idea, one plant, one business to another. I think it makes perfect sense; thinking outside the veggie plot."

#### INFO

Regional capacity building to grow vegetable businesses – Victoria Gippsland (East Gippsland Food Cluster) has been funded by Hort Innovation using the vegetable research and development levy and contributions from the Australian Government.

Project Number: VG15047





## VICTORIAN GROWER COMMITTED TO SUSTAINABILITY

As a sixth generation vegetable grower, production and business sustainability have always been part of Rick Butler's farming legacy. This dedication has allowed Rick's Victorian growing operation, Butler Market Gardens, to engage in a range of key components to improve its environmental practices.

Butler Market Gardens in Victoria is a well-established, multi-generational farming business with a rich heritage and deep commitment to sustainability, the environment and protecting valuable agricultural resources for future generations.

Butler Market Gardens' Chief Executive Officer Rick Butler said the business recognises its soil as a valuable and enduring asset.

"Therefore we make it a priority to not only maintain, but improve soil health and general soil structure, ensuring that we are putting back more than our crops are taking out," Rick said.

To reflect this, the Heatherton-based business has pursued environmental projects which include a five-year partnership with certified composter Enviromix.

### IMPROVED PRACTICES

Butler Market Gardens uses Enviromix's 'Dig-it-in' mulch, which it incorporates into the soil every four months, and Rick is pleased with the results shown so far.

been able to proceed with the use of its vegetable green waste for composting at this stage.

"We are hopeful that in the future this will be an option that we can consider," he said.

### PROVIDING SOLUTIONS

Rick detailed several benefits that a compost solution could provide to vegetable growing operations. These include:

- An improvement in soil structure.
- Replacement of organic matter.
- Promotion of beneficial soil organism populations.
- Increased water retention.
- Helping to enhance plant health to resist disease and pest pressure.
- Reduction of use of chemical fertilisers and harmful residues and side effects.

Rick said that Butler Market Gardens' decision to commit to a partnership with Enviromix is expected to pay dividends well

...since regular application of the mulch, our soil tests are showing increased levels of organic carbon and potassium, as well as better structure, water retention and nutrient retention.

"The benefits have been very good. Soil tests taken in 2014 showed low organic matter and other elements, yet since regular application of the mulch, our soil tests are showing increased levels of organic carbon and potassium, as well as better structure, water retention and nutrient retention," he said.

"Cation exchange capacity (CEC) values have also risen, enabling plants to better utilise available nutrients. Overall, this mulch is providing us with strong benefits and is working well in our program."

Rick said that unfortunately, due to Environment Protection Authority (EPA) restrictions in the area, his business has not

into the future, including an improvement in overall yields of between five to 10 per cent.

"The key to growing good quality vegetables starts with healthy soil, so focusing on soil management through using these products is a great start."

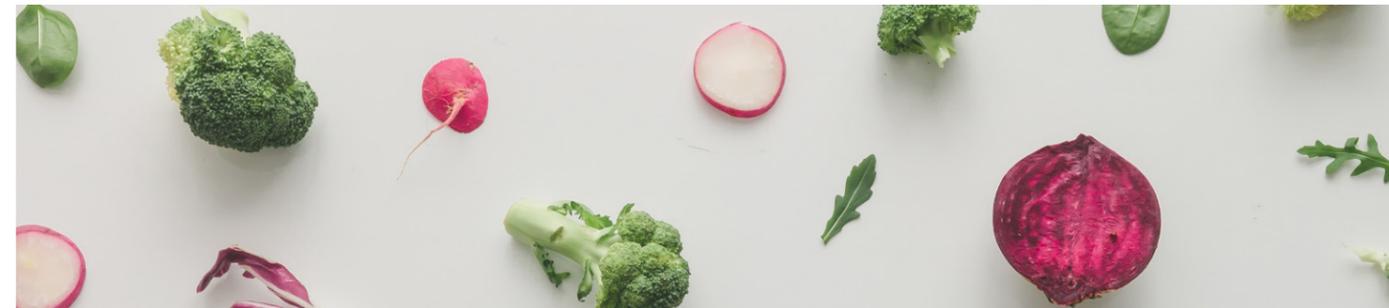
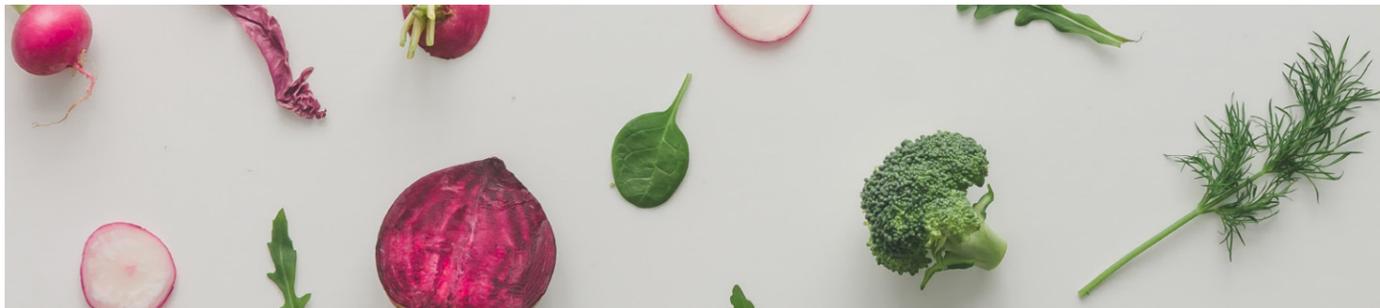
### INFO

For more information, please visit [butlermarketgardens.com.au](http://butlermarketgardens.com.au) or [enviromix.com.au](http://enviromix.com.au).



PERMIT NUMBER	CROP	PESTICIDE GROUP	ACTIVE	PEST/ PLANT DISEASE/ TARGET WEED	DATE ISSUED	EXPIRY DATE	STATES
PER84757	Fruiting vegetables (except cucurbits), including peppers, tomato and eggplant (except sweet corn); root and tuber vegetables	Insecticide	Spinetoram	Tomato potato psyllid ( <i>Bactericera cockerelli</i> )	28-Nov-17	30-Nov-20	All states except Vic
PER14045 VERSION 3	Beetroot, brassica leafy vegetables, broccoli, Brussels sprouts, cauliflower, chicory, endive, radicchio and rocket; carrot and parsnip	Fungicide	Mancozeb and metalaxyl-M	Various fungal diseases. For full details, please search the APVMA website.	01-Apr-13	31-Mar-22	All states except Vic
PER83592	Flowerhead brassica, including broccoli and cauliflower <i>Only growers of organic flowerhead brassica can use the product under this new permit.</i>	Organic insecticide	Pyrethrin	Diamondback moth ( <i>Plutella xylostella</i> )	05-Dec-17	31-Dec-22	All states
PER14958 VERSION 2	Brassica leafy vegetables, silverbeet, spinach, leafy lettuce, beetroot, chicory, endive, parsley, radicchio, radish and rocket	Fungicide	Mancozeb and dimethomorph	Downy mildew ( <i>Peronospora</i> spp.), Alternaria leaf spots and white blister ( <i>Albugo candida</i> )	21-Dec-14	31-Dec-22	All states except Vic
PER84805	Fruiting vegetables including peppers, tomato and eggplant (except sweet corn), potato and sweetpotato	Insecticide	Cyantraniliprole	Tomato potato psyllid	06-Dec-17	31-Dec-22	All states except Vic
PER14212 VERSION 2	Rhubarb	Insecticide	Imidacloprid	Aphids	31-Oct-13	31-Dec-22	All states except Vic
PER14046 VERSION 2	Cucumber	Fungicide	Mancozeb	Grey mould ( <i>Botrytis cinerea</i> )	01-May-13	31-Mar-23	All states except Vic
PER84555	Post-harvest fumigation of fruits, vegetables and cut flowers <i>Can only be used by Fumigators licenced to use ethyl formate by the WA Department</i>	Fumigant	Ethyl formate	Tomato potato psyllid	12-May-17	30-Jun-19	WA only
PER84442	Vegetables	Organic insecticide	Pyrethrin	Tomato potato psyllid	17-May-17	31-May-19	WA only
PER84229	Tomato, eggplant, capsicum, chilli pepper and nursery stock (non-food)	Insecticide	Abamectin (field and protected cropping), bifenthrin (field only), methomyl (field only)	Tomato potato psyllid	07-Apr-17	28-Feb-20	All states
PER84245	Potato, sweetpotato, tomato, capsicum, chilli pepper and eggplant (field and protected cropping)	Insecticide	Spirotetramat	Tomato potato psyllid	07-Apr-17	28-Feb-20	All states
PER84249	Potato and sweetpotato	Miticide/ insecticide	For full details, please search the APVMA website.	Tomato potato psyllid	16-Jun-17	31-Jul-20	All states except Vic

Western Australian Department of Primary Industries and Regional Development is the permit holder for PER84555 and PER84442. New South Wales Department of Primary Industries Orange is the permit holder for PER84229, PER84249 and PER84245. Bayer initiated PER84245 and is seeking the use for label registration. Hort Innovation is the permit holder for all other permits listed. 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: [apvma.gov.au/permits/search.php](http://apvma.gov.au/permits/search.php). This communication has been funded by Hort Innovation using the vegetable research and development levy and contributions from the Australian Government. Project Number: VG15027.



## BREAKDOWN OF LEVY PROJECTS 2017-18

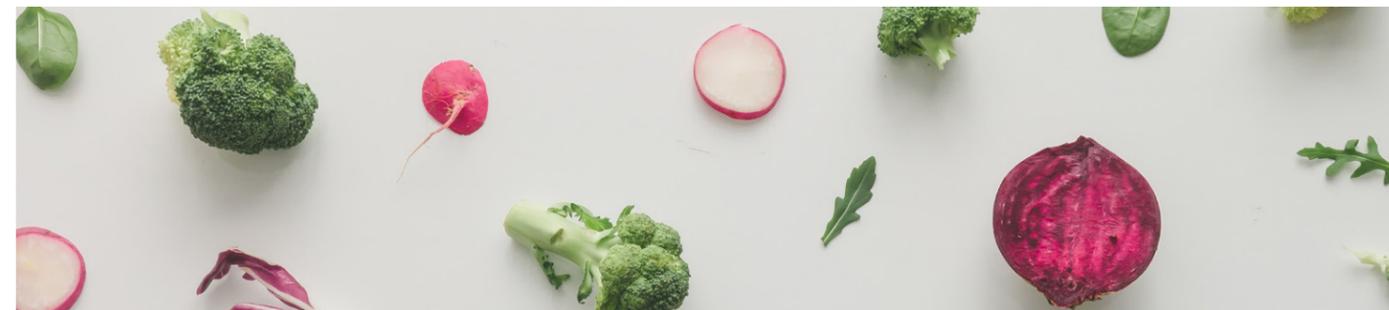
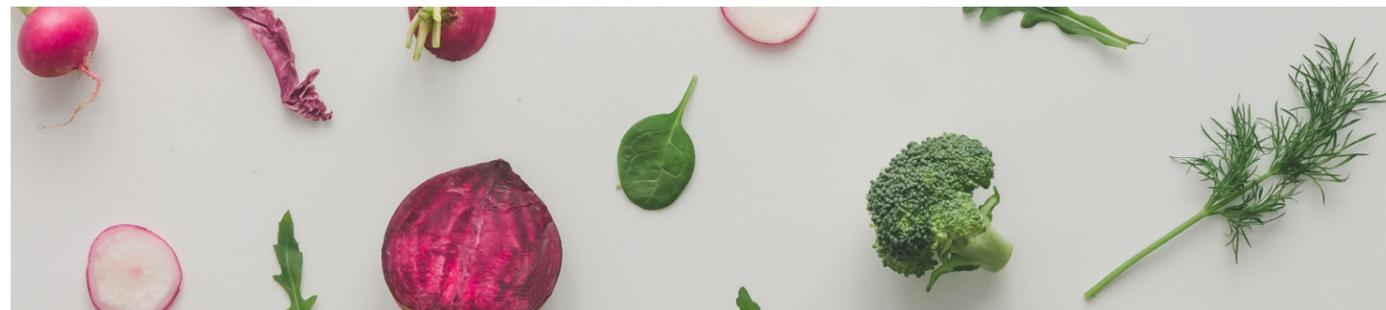
### RECENT INVESTMENTS

PROJECT NUMBER	PROJECT TITLE
VG15028	VegPRO – Professional negotiation and influencing training (sub-project to VG15028)
VG15038	Investigating novel glass technologies and photovoltaics in protected cropping
VG15039	Precision seeding benefits for processing pea production
VG15042	Regional capacity building to grow vegetable businesses – NSW (Local Land Services)
VG15044	Regional capacity building to grow vegetable businesses – NT (NT Farmers)
VG15054	Sensor irrigation technology RFP (also known as 'Data analytics and app technology to guide on-farm irrigation')
VG15061	Sensitivity study – impact of increasing exports on the domestic vegetable market
VG15062	The effects of using anhydrous ammonia to supply nitrogen to vegetable crops
VG15064	Improved management of pumpkin brown etch
VG15065	Review of the national biosecurity plan for the vegetable industry
VG15066	Improved knowledge of factors contributing to carrot crown rot
VG15067	Development of a vegetable education resource – stage 2
VG15068	Improving safety of vegetable produce through on-farm sanitation, using electrolysed oxidising (EO) water
VG15069	Vegetable consumer alignment specialist (VCAS) support role
VG15070	A strategic approach to weed management for the Australian vegetable industry
VG15071	Understanding consumer triggers and barriers to consumption of Australian indigenous vegetables and Asian vegetables
VG15072	Vegetable consumer alignment specialist (VCAS)
VG15073	Characterisation of a carlavirus of French bean
VG15074	Export development of Australian vegetables to Japan

PROJECT NUMBER	PROJECT TITLE
VG15076	Creating value from edible vegetable waste
VG15077	Financial performance of Australian vegetable farms 2016-2017 to 2018-2019
VG16004	Reduce regulatory costs in the protected cropping sector
VG16005	Probisafe – development of new biocontrol agents to inhibit pathogens on vegetables
VG16007	Environmental scan on food safety certification for exporters
VG16008	Gap analysis of vegetable consumer data
VG16009	Adoption of precision systems technology in vegetable production
VG16010	New breeding technologies and opportunities for Australian vegetable industry – pulse check
VG16011	Improving processing vegetable yields through improved production practices
VG16015	Impact assessment of vegetable levy funded projects 2012-2017
VG16016	Attitudes driving juice purchases (also known as 'Market opportunity for vegetable juices')
VG16018	Educational opportunities around the perceptions and aversions to vegetables through digital media (part 1 – market research)
VG16019	Removing barriers of food safety certification for vegetable exporters through GLOBAL G.A.P. co-certification
VG16020	Vegetable industry minor use program
VG16021	Outstanding research tasks in consumer research for sweet potatoes
VG16022	Vegetable monitoring and evaluation
VG16024	Economic assessment for protected cropping vegetables in northern Australia
VG16025	Increase consumption and sales by developing community awareness and benefits of vegetables (scoping study)
VG16026	Addressing vegetable consumption through foodservice organisations (chefs, TAFES and other training institutions)

PROJECT NUMBER	PROJECT TITLE
VG16027	Vegetable trend forecasting and analysis
VG16028	In field evaluation of vegetable seed viability using non-destructive techniques
VG16031	VegPRO – VegWHS training resources (sub-project to VG15028)
VG16031	VegPRO – Developing valued, visible vegetable products (sub-project to VG15028)
VG16031	VegPRO – PMA A-NZ Produce Executive Program scholarships (sub-project to VG15028)
VG16031	VegPRO – Veg inductions (sub-project to VG15028)
VG16035	Training growers to enhance their consumer engagement
VG16059	Stakeholder consultation on the use of untreated manure
VG16060	Vegetable agrichemical pest management needs and priorities
VG16061	Vegetable industry export program
VG16062	Field and landscape management to support beneficial arthropods for IPM on vegetable farms
VG16063	The EnviroVeg Program 2017-2022
VG16067	Impact of pesticides on beneficial arthropods of importance in Australian vegetable production
VG16068	Optimising cover cropping for the Australian vegetable industry
VG16069	Vegetable consumer insights program
VG16070	Research and operational support to trial plant responses to innovative glass technology in protected cropping in vegetables
VG16071	Boosting vegetable consumption through diet
VG16076	Incursion response funding (VG)
VG16079	China insights data for the Australia vegetable industry
VG16080	Vegetable digital asset redevelopment – Veggycation
VG16081	Vegetable market price reporting pilot program – market data

PROJECT NUMBER	PROJECT TITLE
VG16083	Gap analysis for the next generation of protected cropping in vegetables
VG16084	Vegetable market price reporting pilot program – reporting
VG16087	Minor use permit management for vegetable industry
MT16003	Women's leadership forum
MT16004	RD&E program for control, eradication and preparedness for vegetable leafminer
MT16005	Enhanced National Bee Pest Surveillance Program 2016-2021
MT16006	Update of the Hi-Link model of Australian horticultural industries
MT16008	Consumption of juiced fruit and vegetables data analytics
MT16010	Horticultural trade data 2017-2019
MT16011	Horticulture trade intelligence reporting 2017-2019
MT16012	Gulfood 2017
MT16016	Surveillance of tomato potato psyllid in the Eastern States and South Australia
MT16018	National tomato potato psyllid (TPP) program coordinator
ST16006	Generation of residue, efficacy and crop safety data for pesticide applications in horticulture crops 2017
ST16008	Proposed AgVet collaborative forum plant industry investment
AM16002	Asia Fruit Logistica 2016/17 (Hong Kong)
AM16003	Fruit and Vegetable Fair – FVF (Beijing)
AM16004	World of Perishables – WOP (Dubai)



## BREAKDOWN OF LEVY PROJECTS 2017-18

### ONGOING INVESTMENTS

PROJECT NUMBER	PROJECT TITLE
VG11033	Vegetable minor use allocation
VG12080	Leadership program expenses 2013-2016
VG12083	Understanding the nature, origins, volume and values of vegetable imports
VG12096	New vegetable products for personal nutrition
VG12114	Minor use permit management for the vegetable industry
VG13004	Innovating new virus diagnostics and planting bed management in the Australian sweet potato industry
VG13025	Plant health plan implementation for the vegetable industry
VG13039	Remediation of soil contaminated by <i>Salmonella enterica</i> to expedite plant or replant of vegetables
VG13043	New end-point treatment solutions to control fruit fly (Part 1)
VG13044	New end-point treatment solutions to control fruit fly (Part 2)
VG13072	Export opportunities for carrots, sweet corn, beans, broccoli and baby leaf – symposia
VG13073	A revolutionary new sensor for in-field measurements of food safety in leafy vegetables
VG13075	An investigation of low-cost protective cropping
VG13076	Soil condition management – extension and capacity building
VG13078	Extension of integrated crop protection information
VG13083	Identifying and sharing postharvest best practice on-farm and online
VG13092	Improved skill for regional climate in the ACCESS-based POAMA model
VG13101	Effective management of parsley summer root rot
VG14010	Management and detection of bacterial leaf spot in capsicum and chilli crops
VG14038	Generation of residue data for pesticide minor-use permit applications in vegetable crops 2014 – Peracto
VG14039	Generation of residue data for pesticide minor-use permit applications in vegetable crops 2014 – Eurofins

PROJECT NUMBER	PROJECT TITLE
VG14060	Consumer and market program for the vegetable industry (Project Harvest) – stage 2
VG14062	Process improvements for preserving peak freshness in broccoli (stage 2)
VG14063	Innovative solutions to management of tospoviruses of vegetable crops
VG14065	Nuffield scholarship
VG15002	Advanced stable fly management for vegetable producers
VG15003	Using autonomous systems to guide vegetable decision making on-farm
VG15004	Regional capacity building to grow vegetable businesses – Bowen Gumlu and FNQ
VG15009	Improved soil-borne disease diagnostic capacity for the Australian vegetable industry
VG15010	A multi-faceted approach to soil-borne disease management
VG15013	Improved management options for cucumber green mottle mosaic virus
VG15016	Crisis management awareness for the Australian vegetable industry
VG15019	Demographic research for the vegetable industry – phase 2
VG15020	Strengthened biosecurity for the vegetable industry – phase 2
VG15021	Sowing success through transformational technologies
VG15023	Consultancy services for strengthened biosecurity for the vegetable industry – phase 2 (VG15020)
VG15024	Vision systems, sensing and sensor networks to manage risks and increase productivity in vegetable production systems
VG15027	Vegetable industry communication program 2016-2019
VG15028	VegPRO Veg industry education and training initiative
VG15030	Growing Leaders
VG15032	2016 Global Innovations in Horticulture Seminar

PROJECT NUMBER	PROJECT TITLE
VG15034	Facilitating adoption of IPM through a participatory approach with local advisors and industry – training component
VG15035	Facilitating adoption of IPM through a participatory approach with local advisors and industry – coordination component
VG15036	Facilitating adoption of IPM through a participatory approach with local advisors and industry – evaluation component
VG15037	Optimising the benefits of vermiculture in commercial-scale vegetable farms
VG15040	VegNET – Regional capacity building to grow vegetable businesses – Wide Bay Burnett (Bundaberg Fruit and Vegetable Growers)
VG15041	VegNET – Regional capacity building to grow vegetable businesses – Lockyer Valley and SE Queensland (Lockyer Valley Growers Inc)
VG15043	VegNET – Regional capacity building to grow vegetable businesses – WA (vegetablesWA)
VG15045	VegNET – Regional capacity building to grow vegetable businesses – SA
VG15046	VegNET – Regional capacity building to grow vegetable businesses – Tasmania
VG15047	VegNET – Regional capacity building to grow vegetable businesses – East Gippsland (East Gippsland Food Cluster)
VG15048	VegNET – Regional capacity building to grow vegetable businesses – Victoria
VG15049	VegNET – Regional capacity building to grow vegetable businesses – national coordination and linkage project
VG15050	VegNET – Regional capacity building to grow vegetable businesses – training and evaluation
VG15051	Investigating on farm HACCP programs for managing plant pests of biosecurity concern – an options paper
VG15055	Vegetable strategic investment planning (SIP) workshop

PROJECT NUMBER	PROJECT TITLE
VG15057	Feasibility study to collect and report wholesale market price information for the Australian vegetable industry
VG15059	Evaluating and testing autonomous systems developed in VG15003 in Australian vegetable production systems
VG15078	Facilitating knowledge sharing and extension through the horticulture vegetable convention
VG15701	2016-18 European Industry Leadership and Development Mission – Berlin Fruit Logistica
VG15702	USA Industry Leadership and Development Mission 2016-2018
VG15703	Vegetable Young Grower Development Mission and Women's Development Missions
MT10029	Managing pesticide access in horticulture (continued from AH04009 and MT07029)
MT12011	National honey bee pest surveillance program
MT13059	SITplus: Developing and optimising production of a male-only, temperature-sensitive-lethal, strain of Qfly, <i>B. tryoni</i>
MT14006	Export-import market intelligence project 2014-2016
MT14052	Essential market access data packages
MT14055	Driving collaboration in Australian horticultural research
MT15029	Trade facilitation
MT15032	Monitoring and evaluation framework for the industry Strategic Investment Plan
MT15033	Strategic Investment Plan
LP15001	Global Masterclass in Horticultural Business
LP15006	Attracting new entrants into Australian horticulture – promoting careers in horticulture
PH16000	Stingless bees as effective managed pollinators for Australian horticulture

## AROUND THE STATES



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*Please note we have moved to a new address.*

About 80 vegetable growers and other stakeholders recently joined us for the third vegetablesWA Industry Summit. Topics included precision agriculture technologies being implemented for the first time in vegetable production; opportunities for value adding; benchmarking; and biosecurity. It was particularly good to get Jenny Franceschi's insights on value adding in the week that she was awarded the 2017 Telstra Business Women's Corporate and Private Award – it's great to have someone in horticulture being recognised in this kind of way.

This event was also supported by a successful grower tour where 40 people visited varying parts of the Dobra family's Loose Leaf Lettuce Company. An export fundamentals workshop held in association with AUSVEG was also attended by seven growers.

These special events have been really useful to help growers to connect and learn new things in addition to the Horticulture Code of Conduct workshops and vegetablesWA roadshows we've held across all the regions. We're already planning a number of new activities for 2018 for growers to get involved in.

I'm really pleased with our recent recruitment of Joel Dinsdale in our new Quality Assurance (QA) Coordinator role. As we move towards a HARPS world and increased demands from retailers for ethical audits etc., QA will become ever more important.

I'd encourage growers to read up on the articles about our new benchmarking program with Bryn Edwards and Planfarm. The growers who have participated are already saying that in analysing the data, it's given them some new ideas on how to improve their business.

Many growers are being approached by wholesalers to sign a new Horticulture Produce Agreement due to the new Horticulture Code of Conduct. Growers should be very careful to understand the terms being proposed and seek independent legal advice before signing. vegetablesWA can provide the contact details of a law firm with previous experience with the Code if required.

Despite successes, certainly 2017 will be a year that most growers will remember for all the wrong reasons given our tomato potato psyllid experience. Here's hoping for a much improved 2018.

Recently released figures from the Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES) show that Tasmania accounts for 10 per cent of Australia's 2,300 vegetable growing farms and while the number of vegetable farms in Queensland, Victoria and New South Wales has dropped, our state has managed to remain stable.

This season loomed as another challenging planting period with wet conditions through August and September in the north of the state, but once October came the tap turned off, so it was full swing into potatoes from then on.

Across all processing crops it's always pleasing to hear of demands for increased tonnages. There are increased volumes of vegetables due to Simplot's Ulverstone and Devonport plants and more potatoes going into Simplot Ulverstone and McCain's plant at Smithton.

It was primarily this increased tonnage of potatoes that saw total vegetable receipts

increase by seven per cent in 2015-16. Carrot and cabbage receipts also contributed to the increase. Unfortunately, this was offset by the fact that average farm income for the same period declined by 11 per cent.

Total cash costs to producers increased by six per cent in the 2015-16 period. Farmers have been challenged by increased expenditure on repairs and maintenance, and crop and pasture chemicals. They have also faced extensive water and electricity price increases.

As part of its election policy platform, the Tasmanian Farmers and Graziers Association (TFGA) will be calling on all political parties to act in these areas. The future of energy generation has been in the spotlight since the historic low dam levels in 2015. Renewables and battery storage have become the norm for many households and businesses. Farmers are also looking for different options to power their businesses, but importantly they want a reliable and cost-effective price going forward.



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VGA trading as AUSVEG VIC

The AUSVEG VIC Executive Committee would like to say thank you for the support from all of the members and key strategic partners who have been involved with AUSVEG VIC throughout 2017. AUSVEG VIC is looking forward to 2018 and working with all of the members and key strategic partners, especially as the appetite for fresh Victorian vegetables is now higher than it has ever been on the local market and on international markets. AUSVEG VIC looks forward to helping more Victorian growers achieve the best results in the coming year.

The annual AUSVEG VIC Awards for Excellence will be held on Friday 13 April 2018 at Kooyong Tennis Club. The event revolves around a number of awards being presented to the deserving growers and researchers of the Victorian industry to recognise their achievements. The event in past years has been very successful, offering growers and key suppliers an opportunity to network and form new relationships. The process for nominations is open and growers and industry suppliers

are encouraged to contact the Acting State Manager to acquire the nomination forms.

AUSVEG VIC will be launching a new website in the coming months to feature new research and development that has been done throughout the industry and working closely with the Victorian leaders of the National Vegetable Extension Network (VegNET) project that has been rolled out across Australia. AUSVEG VIC will focus on the research that has been conducted since the project started in 2016 by RM Consulting Group (RMCG) and the East Gippsland Food Cluster, showcasing case studies, video interviews and podcasts. The new website platform will allow growers easier access to critical information that will help develop and change the growing environment of Victoria.

If you would like to know more about the AUSVEG VIC Awards for Excellence or express your opinion about the direction that AUSVEG VIC should be moving in, please contact the Acting State Manager Tom Cohen.

## CALENDAR

**18-20 JUNE 2018:**  
HORT CONNECTIONS 2018

**Where:** Brisbane Convention Centre, Queensland  
**What:** A joint initiative between AUSVEG and the Produce Marketing Association Australia-New Zealand (PMA A-NZ), Hort Connections is set to deliver another world-class event to growers and whole-of-supply-chain companies. Co-hosts include Apple and Pear Australia Limited, Australian Organic, the Australian Horticultural Exporters' and Importers' Association, Growcom, Nursery and Garden Industry Australia and Onions Australia. Fresh Markets Australia in partnership with the Central Markets Association of Australia are also exclusive sponsors of the Trade Show.

**Further information:** hortconnections.com.au.

**2-4 JULY 2018:** NORTHERN AUSTRALIA  
FOOD FUTURES CONFERENCE 2018

**Where:** Darwin Convention Centre, Northern Territory  
**What:** Find out what is happening in developing northern agriculture at the Northern Australia Food Futures Conference. The event will focus on how public and private sectors can develop agriculture in the north, including the Gulf and Cape of Queensland, the Ord and West Kimberley of Western Australia and the Northern Territory. The conference will include various workshops as well as farm visits within the Northern Territory and traditional plenary sessions accompanied by a social program.

**Further information:** foodfuturesntfarmers.org.au.

## AROUND THE STATES



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In November, NSW Farmers and KPMG released a Green Paper on 'A Fresh Food Precinct for Western Sydney Airport'. The growth in volume and value of global food production will create significant opportunities for Sydney and farmers across New South Wales. Greater Western Sydney is well-placed to play a key role in the supply of high quality, value-added fresh food to both local and international consumers.

The paper highlights the potential development of a world-leading Fresh Food Precinct as part of a future Western Sydney Airport. The precinct would be an area of land in close proximity to the proposed Western Sydney Airport that will allow for integration of high value food production with the best in food processing technology. The precinct will enable farmers to have access to the new port and markets and it will ensure investments in economic infrastructure are planned to benefit food production and farming. It will also demonstrate

to those living in the city that farming is a relevant and vibrant sector in the economy.

Agriculture, food processing and manufacturing can be a multi-billion dollar opportunity at the Western Sydney Airport – as long as there can be the right supply chains to allow products to quickly and easily access the lucrative and growing Asian and Middle Eastern markets, as well as the growing Western Sydney region.

NSW Farmers believes that there is a fantastic opportunity with the Western Sydney Airport for a new fresh food trading market to be established. This could be an opportunity for Sydney Markets to start a new operation, in conjunction with its current location at Flemington, within the new precinct. This could enable millions of residents currently living in, or expected to live in, Western Sydney the opportunity to buy our freshest produce close to their home.



**Greg Owens**  
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On 1 November 2017, the *Agribusiness Potential of the Big Rivers Region* document was launched in Katherine, Northern Territory. Developed by the NT Government in consultation with NT Farmers Association and regional stakeholders, the document will be used to attract investors and encourage existing regional agribusinesses to join with government to develop the region through diversification and expansion. The NT Government's vision is to see Katherine grow into a major agribusiness hub, supported by efficient transport and logistics infrastructure.

The NT Government has funded three new positions at NT Farmers – a Mango Industry Business Development Officer to grow the sector; a Workforce Planning Coordinator to help source labour; and a Plant Industry Development Officer based in Katherine.

A discussion was held on the new Pacific Labour Scheme on 29 November 2017 at the NT Farmers Association. The scheme will be available from 1 July 2018 to employ low- and semi-skilled workers from the Pacific Islands

who can stay for up to three years for non-seasonal work. Farmers can sponsor workers from the Pacific Islands after testing the local labour market to ensure Australians have priority for these jobs and meet the program's criteria. This form of industry engagement by the Department of Foreign Affairs and Trade is imperative to policy creation.

NT Farmers provided an update on the Seasonal Worker Program; upcoming changes on 1 July 2018 and the increased number of seasonal workers during the NT harvest season. The Permanent Secretary of the Solomon Islands Foreign Affairs and External Trade Ministry, Peter Kenilorea Junior, advised on the availability of Solomon Islands seasonal workers.

On 30 November 2017, NT Farmers escorted Mr Kenilorea to visit seasonal workers from Solomon Islands on-farm, where he spent time talking with the workers, viewing the accommodation and touring the mango farm.

For further information, please contact Workforce Planning Coordinator Aisla Connolly on 08 8983 3233 or email [wpc@ntfarmers.org.au](mailto:wpc@ntfarmers.org.au).



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*Please note we have moved to a new address.*

Growcom is pleased to launch its templates to assist growers in the development of their horticulture produce agreements (HPAs) required under the Horticulture Code of Conduct.

The templates have been developed with significant input from solicitors, growers and grower organisations around Australia. This process has taken some time, but it was important to get it right.

It is our view that these templates are a useful starting point for negotiations around the HPA and provide a clear and easy-to-understand outline of the responsibilities of both parties.

Growers can choose to pursue either an agency or merchant style agreement with their wholesaler or packhouse, depending on the preference of both parties.

Fundamentally, an agency agreement means the trader never owns the produce and is paid a commission for services rendered, whereas under a merchant agreement the trader takes on ownership and a level of risk.

While we are happy to be able to provide growers with these templates, the feedback from the workshops we conducted with more than 300 growers across Queensland highlighted that every commodity is different and it is important to customise these templates to suit your business.

It is important to check the terms and conditions of any HPA you enter into. In particular we recommend that you check the definition of delivery as most of the protections in the Code, including payment terms, are determined by when delivery is considered to take place, so it needs to be clear and time bound.



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*Please note we have moved to a new address.*

AUSVEG SA moved to the South Australian Produce Markets in late 2017, and looks to build a strong presence including grower workshops and regular support for growers at the state's fresh produce hub. We will have a number of exciting new initiatives to announce in 2018 as we continue to grow the association.

We also thank AUSVEG SA's lead corporate partner Peats Soil, which is again renewing its support for our association in 2018. AUSVEG SA thanks Peter Wadewitz and the Peats Soil team for their continued support, which ensures the growers of the state can have a strong voice with government.

Key achievements for the association in 2017 have included:

Disappointingly, the template developed by the Fresh Markets Association (FMA) has a very vague definition of delivery and places unfair liability onto growers.

In a letter sent to Growcom, the Australian Competition and Consumer Commission (ACCC) stated:

*We remain concerned that the merchant template is inconsistent with the Horticulture Code's objective of providing greater transparency and clarity regarding horticulture produce agreements. We are also conscious that a merchant might implement these arrangements in a way that has the effect of shifting significant financial risk to a grower. While it would depend on the circumstances and consideration of a range of factors, terms such as these may raise issues under the Australian Consumer Law (ACL), such as the unfair contract terms provisions.*

It is a legal requirement to have a HPA under the Horticulture Code, but if you feel pressured to sign a contract that is unfavourable to your business, that breaches unfair trading legislation and can be dealt with by the ACCC.

Growers should not consider any document or agreement as a one-size-fits-all document. Growers should give consideration to the unique aspects of the way they do business and whether the Growcom HPA, or FMA HPA suits their arrangements, or whether it needs to be modified or tailored.

Should you wish to obtain further legal advice, we can recommend Michael Waters from MRH Lawyers on 07 4154 5510 or [michaelwaters@mrh.com.au](mailto:michaelwaters@mrh.com.au)

- Effectively fighting and defeating a proposed increase to rates in the Playford Council region.
  - Leading industry campaigns to secure grower access to the \$150 million Northern Adelaide Irrigation Scheme.
  - Working with growers to deliver leading programs, including our export management and Integrated Pest Management (IPM) program.
- AUSVEG SA will continue to work to advance the interests of our industry in 2018 and looks forward to the continued support of our hardworking growers. We look forward to seeing many of you at our new home at the South Australian Produce Markets!

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