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EDITORIAL

Wind the clock back to February 2016 and you will find one of the strongest examples of why food safety must take top priority in the fresh produce industry.

The media headlines and resulting consumer reaction following the recall of pre-packaged lettuce products engulfed our industry for some time – it was an unwelcome wake-up call to the ongoing importance of food safety in the fresh produce supply chain.

The very nature of fresh produce is testament to why it is so important for every growing operation to not only meet and, where possible, exceed the minimum quality assurance requirements, but also ensure that food safety is embedded in the culture of the entire organisation, from the top down.

This message was reinforced at the fourth annual Fresh Produce Safety Centre conference in August, where around 150 fresh produce industry members from throughout the supply chain gathered to hear the latest in research outcomes and innovation in the food safety sphere.

The conference involved a series of interactive speaker presentations and networking sessions with a range of leading local and international food safety experts. We provide a detailed overview of the event on page 20.

In this edition, we also touch on the topic of food safety in our regular Women in Horticulture column, as we speak to Schreurs & Sons Technical Director Dr Marie-Astrid (Astrid) Ottenhof, who is tasked with the responsibility of all quality assurance matters in the business.

The growing operation, which produces celery, leek and baby leaf lettuce varieties, has implemented a new sanitising technology for its produce, which avoids the use of chemicals. Astrid explains more about the company's Electrolysed Oxidised Water system on page 28.

While much of the world continues to use chlorine-based sanitisers, this initiative shows that Australia is ahead of the curve in this space, pioneering a new technology which could very well revolutionise the way fresh produce is sanitised.

Australia's growers, processors, retailers and regulators all have a significant role to play in producing fresh produce that is safe to eat. Food safety is critical to the health and wellbeing of every consumer and it's a concept that should continue to be embedded in the mindset of every growing operation. After all, the risk of neglect in this space could be disastrous not only for consumers and the grower in question, but the reputation of the industry as a whole.

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I would like to welcome NT Farmers back into the AUSVEG fold, after the peak body for plant-based industries in the Northern Territory re-joined as a member in July.

In light of this, AUSVEG Deputy Chair Belinda Adams, CEO James Whiteside and I travelled to the Top End where we met with small- and large-scale growers and toured their horticultural operations to understand the difficulties facing growers in the Northern Territory first-hand.

It was a rewarding experience and one that has enriched our knowledge of the Top End horticulture industry. It will also assist us in collaborating with NT Farmers on key issues, ensuring that the work they have already achieved is recognised, built upon and that they are well-represented on the national stage.

AUSVEG would also like to acknowledge the appointment of Greg Owens as Chief Executive Officer of NT Farmers. Greg is a well-known figure in Top End horticultural circles, having spent over 30 years in the region as a science and agriculture studies teacher, senior horticulture extension officer at the Department of Primary Industries in Darwin and vegetable engagement officer at NT Farmers.

Greg's passion for the industry, shown through his determination to assist young growers to develop their businesses and integrating Cambodian and Vietnamese growers into the wider Northern Territory community, makes him the ideal person to lead NT Farmers.

He is also planning to showcase the agriculture opportunities across the northern states at the Northern Australia Food Futures Conference, which will take place in Darwin from 2-4 July 2018. Greg and NT Farmers are at the forefront of this important conference and we look forward to supporting the industry and the valuable work conducted by NT Farmers at this event.

Meanwhile, AUSVEG has welcomed the legislation of amendments to strengthen Australia's competition law, which include the addition of an 'effects test'. The reform will provide the Australian Competition and Consumer Commission (ACCC) with the ability to take action against instances of misuse of market power across all industries. Importantly, it will ensure an open and transparent business environment in the Australian fresh produce industry that welcomes new competition.

AUSVEG acknowledges the efforts of the Federal Government in working to address competition issues in the agriculture sector. This includes funding a dedicated Agricultural Commissioner and team within the ACCC, as well as recent reforms to the Horticulture Code of Conduct.

Australian horticulture contributes significantly to the national economy and is predominately made up of small business owners who rely on a competitive and vibrant domestic market. We are confident these reforms will get a long way in ensuring growers can operate in such an environment well into the future.

AUSVEG would like to congratulate Andrew Bulmer on taking home the Kondinin Group and ABC Rural 2017 Australian Farmer of the Year award.

Andrew is Managing Director of Bulmer Farms, one of the country's leading leafy green vegetable growers based at Lindenow in far-east Victoria. Andrew's dedication to the Australian vegetable industry and his willingness to help other growers succeed has given him a great reputation in our sector.

We witnessed this first-hand in May when Bulmer Farms staged the inaugural East Gippsland Vegetable Innovation Days, a great initiative that brought growers together to learn about industry innovations and network with each other. Andrew was a driving force behind this event, and it is fantastic to see him rewarded for his ongoing commitment to innovation in the industry.

In other positive news, AUSVEG has welcomed the announcement of Hort Innovation's Taste Australia campaign, which is the biggest trade initiative in Australian horticulture history.

This campaign will help to promote premium Australian produce in current and future markets, and will see more research and development conducted to grow market access, as well as increase support for current and aspiring exporters.

Australian vegetables are known around the world for their great taste and high quality, and the vegetable industry is in an excellent position to capitalise on expanding export markets for premium fresh produce. As part of this major export push, Hort Innovation and AUSVEG will work with the industry to boost the value of vegetable exports to \$315 million by 2020 – equivalent to a 40 per cent increase – as part of the *Vegetable Industry Export Strategy* released earlier this year.

As well as embracing Taste Australia, AUSVEG is continuing its commitment to grow horticulture exports and provide vegetable growers with the opportunity to benefit from industry involvement in export development.

Last month, AUSVEG led a small delegation of four produce buyers from Hong Kong, Thailand and Japan through the Carnarvon region, which gave the buyers the opportunity to meet with Western Australian horticultural producers and explore export opportunities. A highlight of this mission was attendance at the Gascoyne Food Council's annual Food Festival program.

In addition, two-day Vegetable Industry Export Development Training Programs were held during August in Victoria, South Australia and Tasmania as part of the Package Assisting Small Exporters (PASE). The training programs have been developed to help growers strengthen their understanding of export documentation and procedural requirements, and ultimately expand their export capabilities.

The training programs were well-attended across all three states and will hopefully provide another pathway for Australian vegetable growers to seize the opportunities presented by expanding export markets and improve the profitability and sustainability of their businesses and the wider industry.



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25 per cent

According to Veggycation®, one serve of squash provides a good source, or 25 per cent, of the Recommended Daily intake, of vitamin C. It recommends steaming, stir-frying or enjoying the vegetable raw.



\$1.4 billion

If all Australians consumed enough vegetables in 2015-16, it was estimated that \$1.4 billion (0.9 per cent) of health expenditure could have been avoided. *Source: Deloitte Access Economics 2016 report: The impact of increasing vegetable consumption on health expenditure.*



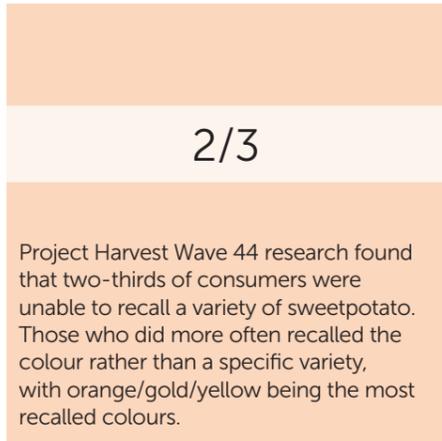
73,026 tonnes

For the year ending June 2016, Australia produced 73,026 tonnes of fresh broccoli and baby broccoli. The *2015/16 Australian Horticulture Statistics Handbook* reports that five per cent of this production was sent to processing.



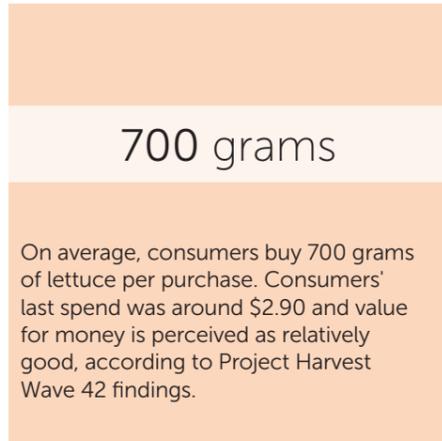
5,626 tonnes

For the year ending June 2016, 5,626 tonnes of Brussels sprouts were produced in Australia. Eighteen per cent of this total was sent to processing, as reported in the *2015/16 Australian Horticulture Statistics Handbook*.



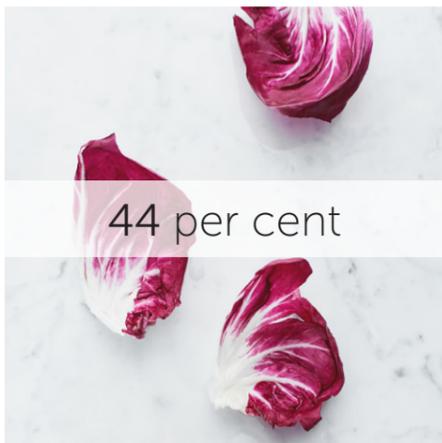
2/3

Project Harvest Wave 44 research found that two-thirds of consumers were unable to recall a variety of sweetpotato. Those who did more often recalled the colour rather than a specific variety, with orange/gold/yellow being the most recalled colours.



700 grams

On average, consumers buy 700 grams of lettuce per purchase. Consumers' last spend was around \$2.90 and value for money is perceived as relatively good, according to Project Harvest Wave 42 findings.



44 per cent

The *2015/16 Australian Horticulture Statistics Handbook* revealed that 44 per cent of Australian households purchased cabbage, buying an average of 1.2kg per shopping trip.



1788

Pumpkin seeds arrived with the First Fleet in 1788 and were intended to feed pigs. Pumpkins have since become one of the success stories of the early Australian colonies. *Source: australia.gov.au.*



2-3 meals

A Colmar Brunton analysis of an online community of consumers aged 18-35 years old (commonly known as 'millennials') found that 43 per cent of millennials typically purchased enough vegetables for 2-3 meals.



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Andrew Bulmer and Deputy Prime Minister Barnaby Joyce. Image courtesy of Kondinin Group.



Bulmer Farms at Lindenow in Victoria.

VICTORIAN GROWER HONoured AT FARMER OF THE YEAR AWARDS

Bulmer Farms Managing Director Andrew Bulmer has received the ABC Rural and Kondinin Group's highest accolade after taking home the Australian Farmer of the Year award last month. Bulmer Farms is a large-scale horticultural enterprise based in the East Gippsland region of Victoria, and Mr Bulmer was recognised for his innovation and dedication to the Australian vegetable industry.

Victorian vegetable grower Andrew Bulmer has added another award to his name, this time taking home the 2017 ABC Rural and Kondinin Group's Australian Farmer of the Year accolade.

The Managing Director of Bulmer Farms, located at Lindenow in Victoria's East Gippsland region, was recognised for his innovation and flexibility in his business, which is one of the country's leading leafy vegetable growing operations.

In 2016, Mr Bulmer received the inaugural AUSVEG VIC Grower of the Year award, and in 2011, he won the AUSVEG Young Grower of the Year award.

Mr Bulmer was also recognised at a local level last year, with Bulmer Farms scooping the pool at the East Gippsland Business Awards. The business received three accolades: the agribusiness; innovation; and outstanding achievement awards.

"It's fantastic for horticulture that someone within the industry was selected ahead of more traditional farming lines such as red meat (beef, cattle and sheep), grains, dairy etc., so it's great to see horticulture beginning to get recognised. It's great for Gippsland, and for Victoria, too."

INDUSTRY INNOVATION AND COLLABORATION

The 2017 Farmer of the Year has also been a driving force behind the East Gippsland Vegetable Innovation Days held in May this year. This was a major event for the East Gippsland Food Cluster as part of the National Vegetable Extension Network, a strategic levy investment under the Hort Innovation Vegetable Fund.

Following the success of the event, Mr Bulmer has some

advice for those within the vegetable industry who are looking to build their business: Challenge yourself and challenge ideas. To do this, it involves networking and collaboration.

"Network as much as you can and form alliances with like-minded people who are happy to share information but also challenge ideas," he said.

"Collaborate with as many different people along the way too – it's a fantastic opportunity to take you to the next level. Embrace innovation and new technology, and just don't give

up. If you fail somewhere along the way, treat it as a learning experience and move on from there."

SPREADING THE MESSAGE

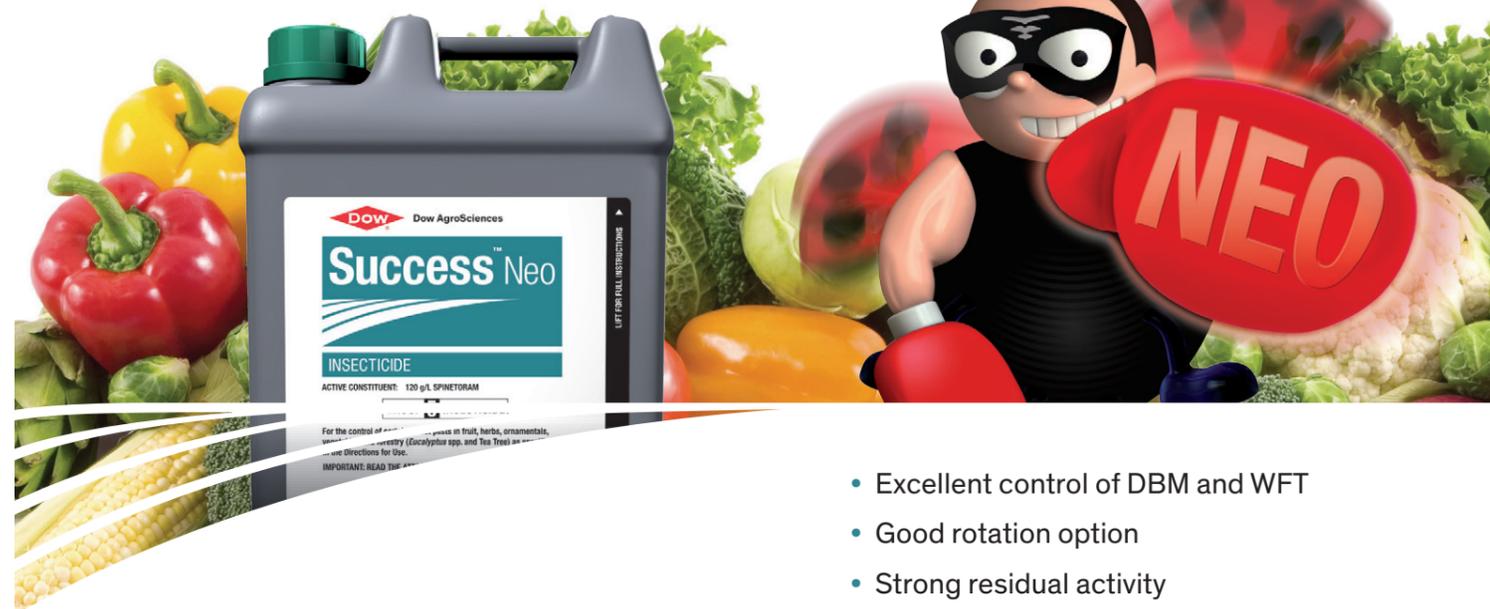
Mr Bulmer outlined his desire to continue to mentor young people about the Australian vegetable industry, and address any misconceptions that they may have about potential career opportunities in the industry.

"I want to educate young people on the fantastic career pathways and opportunities the industry provides as a result of emerging technologies," he said.

"The perceptions that young people may have about the industry might not be anywhere close to what the reality is.

"The horticulture industry plays a critical part in feeding the nation, and there are terrific opportunities for the whole industry to collaborate on the big issues. By doing this, we can get the desired results."

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WORKSHOPPING A ROAD MAP FOR THE NEXT BIG VEGETABLE TREND

Healthy living and tailor-made diets are continuing to make their mark on Australians' eating habits. In a strategic levy investment project funded by Hort Innovation, Workshop Australia analysed consumer trends to find out how growers can position their vegetables front and centre, as well as create trends of their own. Jarrod Strauch reports.

In the ongoing discussions about marketing in the Australian vegetable industry, the easiest question to answer is *why* – to help Australians live healthier lives, and to make our industry more successful, through increasing vegetable consumption. It's less well-understood *how* growers, or groups of growers, could capitalise on emerging and future consumer trends to promote their vegetables and capture the public's imagination

The project *Vegetable trend forecasting and analysis* (VG16027) is a strategic levy investment under the Hort Innovation Vegetable Fund. It was commissioned to research trends and produce a resource for growers to better understand how to go about undertaking their own marketing activities.

At the outset of the project, Hort Innovation delivery partner Workshop Australia looked at kale, one of the biggest recent trend foods, to find out what drove each boom. Kale is perhaps the most successful 'superfood' of the last decade, rising from being used as decoration at Pizza Hut salad bars to becoming a household name.

Workshop discovered that this resulted from a PR agency making use of high-profile restaurants to push kale as an innovative meal component with huge health benefits.

"Not long after that, it trickled down into supermarket shelves, with people using kale at home, and a couple of years later it appeared on a *Time* magazine list of the top 10 food trends for the year," Workshop Senior Strategist Tom McGillick said.

The key takeaway was the role that restaurants play as industry tastemakers.

"They're the ones that are having ideas that are trickling down through the food industry and through more casual kitchens," Mr McGillick said.

"They're also informing trend forecasters in supermarkets and food retailers who, in turn, put those foods on the shelf."

TRENDING TOPICS

When Workshop analysed trends to identify consumers' motivations and find their perfect vegetable match, they discovered the biggest potential in two areas – increasingly customised diets and a shift towards lower meat consumption.

"As people become more familiar with following diets, the type of things that we are looking to and expecting to be able

to achieve become a lot more sophisticated," Mr McGillick said.

Workshop's research suggests that as well as pursuing more intangible targets, like 'harmony' or 'balance', consumers are also mixing and matching ingredients based on their nutritional benefits to meet specific goals like improving their mental or digestive health.

Coupled with the rising number of Australians following predominantly meat-free diets, this presents an opportunity for the industry to educate consumers about the specific benefits of individual vegetables.

"People feel they can achieve very specific things with their diets. They're also looking for a more holistic approach to their health, and they're increasingly turning to vegetables and plant-based diets to provide them with that kind of thing," Mr McGillick said.

"There's an increasing need, both in home cooking and food service, for plant-based meat substitutes that offer a meaty mouthfeel – that are familiar foods that someone who's new to vegetarianism can turn to."

FRAMEWORK FOR THE FUTURE

Workshop took this knowledge and created a profile of what a vegetable requires to be made into a cultural trend: strong health benefits; an ability to be used as a novel proposition for the food service industry; an ability to capture consumers' imaginations; and on the production side, an ability to sustain supply for an increased demand over an extended period.

Workshop identified broccoli and eggplant as offering potential to meet these requirements in the immediate future, and have produced case studies showing how growers of these vegetables, or groups of growers, could leverage existing trends should they have the ability to fund their own marketing activity.

More broadly, however, Workshop created a framework for anyone in the industry to identify emerging trends, match them with a specific vegetable crop, and capitalise on that opportunity.

"It was really about creating a resource that would be relevant to all growers to do something under their own steam, if that's what they wanted to do," Mr McGillick said.

The framework suggests that growers should use Google Trends and other sources to identify which vegetables are becoming more popular, consider the nutritional benefits of these vegetables and look at how they relate to current food trends, and work with the food service industry to deliver a novel proposition.

As conversations about industry members' marketing options continue, this research will prove invaluable for growers assessing their options.

R&D ■ Drive Train ■ Consumer Alignment

INFO

To read the full project report, please search the InfoVeg database at ausveg.com.au/infoveg.

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

Project number: VG16027

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MAINTAINING PROFITABILITY AND PRODUCTIVITY IN VEG PROCESSING

The Tasmanian Institute of Agriculture has joined forces with Applied Horticultural Research and Simplot Australia to complete a strategic levy investment project aimed at maintaining the Australian vegetable processing industry's competitiveness in the global marketplace. *Vegetables Australia* spoke to Project Lead Sue Hinton about the two-phase project and how it will unfold.

The Tasmanian Institute of Agriculture (TIA) has thrown its support behind the processing vegetable industry through the project *Improving processing vegetable yields through improved production practices* (VG16011), part of the Hort Innovation Vegetable Fund.

The project will be split into two phases. Phase one involves a desktop study of global best practice for five crops – broccoli, cauliflower, carrots, green beans and sweet corn – while phase two will develop demonstration trials for researchers to search for ways to improve the productivity of these crops.

Applied Horticultural Research (AHR) and food manufacturer Simplot Australia are collaborating with TIA on this project.

REACHING TARGETS

TIA Industry Development Manager and Project Lead Sue Hinton said the project aims to look at ways in which Australia's processing vegetable industry can remain globally competitive.

"We'll be looking at everything that is available to see whether it's going to have potential impact for Australian processing vegetable growers," she said.

Simplot Australia has set what is known as '2020 targets' for key frozen vegetable processing crops including broccoli, cauliflower, carrots, green beans and sweet corn, which will guide this process.

"Simplot has specific yield targets for each of the crops that they produce to achieve an average yield at that level by the year 2020," Ms Hinton explained.

"Achievement of these targets will require average yield increases between 17-42 per cent over the next three years."

Ms Hinton said that there will be fairly significant changes required for these targets to be reached. This may include changes in agronomic practices and the varieties that are used for the processing crops, as well as the implementation

of innovative technologies, such as variable rate irrigation or variable rate seeding or fertilising.

"It could be any number of innovations that will help improve the yields of the crops," she said.

SUSTAINABILITY GOALS

According to Ms Hinton, the Australian vegetable processing industry is facing fairly significant global competition.

"One of the big things for us is to maintain our competitiveness in that global marketplace," she said.

"Even if it means that we are able to compete in the domestic situation within Australia, and stop the erosion of product coming in from overseas – we really want to stop the replacement of Australian product with non-Australian product."

She added that this project will hopefully assist in maintaining the Tasmanian vegetable processing industry, where a large proportion of Australian frozen vegetables are grown.

"It's not only about the profitability and productivity of the growers, it's about the sustainability of the company in the marketplace as well," Ms Hinton said.

"Improving the crop's profitability and productivity gives the company the opportunity to be competitive in the world market as well."

GROWER INTERACTION

TIA and AHR researchers, as well Simplot Australia Field Officers, will be communicating with vegetable growers from phase one of the project. Part of this phase will establish an 'appreciative inquiry', which Ms Hinton described as an extension technique for having conversations with growers and cementing their involvement.

"A lot of the production is already occurring at really high

levels so it's about capturing the really positive things that are already happening and seeing if we can build on that with a cohort of growers," she said.

At the end of phase one, AHR will produce a number of short videos outlining what the project has discovered in terms of current best practices in crop production. Growers will also receive feedback through Simplot Field Days and there will be other extension materials developed, including fact sheets.

"After phase one, we'll probably have a better idea of where we can do some work around innovations. Then we will establish some demonstration trials for phase two of the project, where we'll look at ways that we can improve the productivity of the crop," Ms Hinton said.

R&D ■ Drive Train ■ Farm Productivity, Resource Use & Management

INFO

For more information or to register your interest in the project, please contact Sue Hinton at sue.hinton@utas.edu.au.

This project has been funded by Hort Innovation using the vegetable research and development levy, co-investment from the Tasmanian Institute of Agriculture and Simplot Australia and contributions from the Australian Government.

Project Number: VG16011



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RESOURCES AND TRAINING OPPORTUNITIES OFFERED TO VEG INDUSTRY MEMBERS

VegPRO, the vegetable industry's own education and training initiative, has been working extensively over the last couple of months to implement workshops and courses as well as online tools for growers and vegetable industry members.

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

It has been a busy time for VegPRO, with training courses and workshops taking place in various locations as well as the establishment of resources aimed to empower growers and members of the Australian vegetable industry.

There were two negotiations and influencing workshops, held over 25-26 July in Melbourne and 13-14 September in Bundaberg. Those who attended said that this course would be invaluable in their day-to-day dealings with both staff and suppliers, as well as when trying to 'seal that deal' with wholesalers and supermarkets.

PRODUCT FOCUS

The negotiations course in Melbourne was closely followed by VegInnovations' *How to stand out from the crowd: Developing valued, visible vegetable products* event, held on 4 August at Monash University's Clayton campus.

This pilot event was well-attended, and it aimed to gauge the interest within the industry. Given the positive feedback that has been received, VegPRO would be keen to present this one-day workshop in other areas around the country.

The workshop covered topics such as finding and developing concepts, meeting consumer needs, creating value and unique products, getting packaging and presentation right, and so much more. If you are interested in a workshop being held near you, please contact VegPRO Coordinator Sophie Lapsley on 0426 200 996 or at sophiel@rmcg.com.au.

RESOURCE PACKAGE

VegPRO's aim is also to provide tools that will help industry members. The first of these has been released and is available on the VegPRO website (vegpro.com.au – *VegWHS Workplace Health & Safety on Vegetable Farms*). Vegetable businesses now have a resource package that helps to efficiently address all of their workplace health and safety (WHS) needs, thanks to the VegPRO program.

The VegWHS USB contains everything vegetable growers need to know and do to maintain WHS on their growing operations, as well as all essential forms. Suitable for all

business sizes, this USB provides the tools you need to ensure your business and employees are working safely.

If you're a levy-paying vegetable grower and you don't already have a VegWHS USB, please contact Sophie.

UPCOMING EVENTS

VegPRO is currently working on an online induction for the vegetable industry, as well as chemical handling for crops with a short withholding period.

There will also be a series of workshops looking at the changes to the Horticulture Code of Conduct, and what grower requirements are. Currently workshops are scheduled for South Australia, Victoria and New South Wales in early- to mid-October, with a workshop in Tasmania in early October.

These workshops are being coordinated by the project *Regional capacity building to grow vegetable businesses – national coordination and linkage project* (VG15049, National Vegetable Extension Network, VegNET), a strategic levy investment under the Hort Innovation Vegetable Fund. Speak to your local VegNET representative if you are interested in either attending a workshop or having a workshop held in your area.

THE BOTTOM LINE

VegPRO Coordinator Sophie Lapsley would like to remind readers that this is an industry-driven project.

"All of this training is as a result of your submissions – so make sure you keep those ideas and requests coming in so that we can offer training that will help the industry become more professional, proficient and progressive," she said.

R&D 

INFO

If you are interested in these upcoming training opportunities or resources, please contact VegPRO Program Coordinator Sophie Lapsley on 0426 200 996 or sophiel@rmcg.com.au or visit vegpro.com.au. Any training ideas or feedback can be submitted via the website under the 'Call for Ideas' tab. 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

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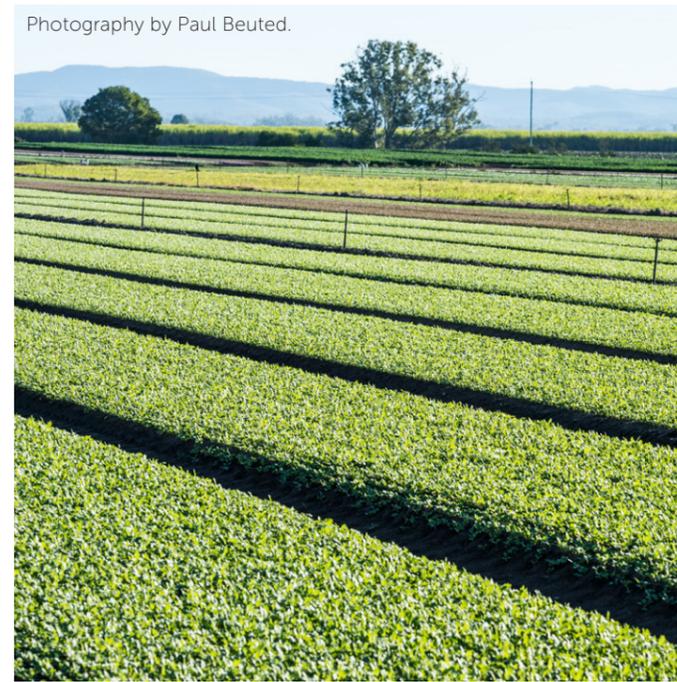
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Photography by Paul Beuted.



MASTERING THE ART OF REINVENTION AND TECHNOLOGY

A fourth generation farmer, Hugh Reardon entered the vegetable industry 12 years ago as one half of Dicky Bill Farming (formerly Australian Fresh Salads). Since then, Hugh has overseen the reinvention of the growing operation, which has undergone a relocation from south-east Queensland to central Queensland and Victoria. Michelle De'Lisle spoke to the Maffra-based grower about his horticultural journey so far.

Hugh Reardon is passionate about farming and the technology that comes with it. As a child, he and his brother would read machinery catalogues and reel off the prices of tractors; now as a fourth generation farmer, his interest in agtech continues to thrive. Suffice to say, working on the land is in his blood.

After growing up on grain and cattle plains in north-western New South Wales, Hugh worked in the cotton industry for a few years before joining Ryan McLeod as a Director of Dicky Bill Farming (formerly Australian Fresh Salads) in 2005.

Hugh and Ryan have overseen the relocation of the business to two operating sites. Dicky Bill Farming previously had nine farms based in south-east Queensland; however, after the floods of 2010-11, they moved north to Wide Bay (near Bundaberg) and south to Maffra in Victoria. The original nine farms have since ceased operation.

With Ryan and his wife Tahirih running the Dicky Bill Farming marketing operation out of Brisbane, Hugh oversees the day-to-day business at the Maffra farming site.

Dicky Bill Farming's core business is fresh cut salads – spinach, wild rocket, mesclun, mixed salads, coloured lettuce (red and green) and cos. It also grows sweet corn and herbs (coriander and parsley) seasonally, and other crops when there is a window of opportunity for prime growth.

FOCUS ON TECHNOLOGY

In addition to his role at Dicky Bill, Hugh combined his passion for farming and technology by co-founding a start-up business, which has now reached the commercialisation stage.

Hugh spoke about Apunga, a horticultural farm management application, at Hort Connections 2017 as part of the 2017 Global Innovations in Horticulture Seminar (VG15032), a strategic levy investment under the Hort Innovation Vegetable Fund.

Apunga is a joint venture between Dicky Bill Farming and Tehnika, a control systems company.

"A goal for myself and Ryan was always to scale and grow the business and it's very, very difficult on a paper-based system. There are around 20 varieties of salad crops that we grow and there is a lot of complexity within our category. Trying to manage that on a paper-based system was inhibiting the growth," he said.

The vision was to automate, document and record these systems so that Hugh and Ryan could manage them with ease. This would enable the pair to have product when other growers didn't, recognise how much product they were producing and limit waste, and assist in identifying the specific location of diseases such as mildew.

"Having that information means that something which would normally take hours to diagnose, or put you into a bit of a tailspin, we could find the cause and effect at our fingertips. That's key to any business – just having the information. Information is power," Hugh says.

EMBRACING INNOVATION

Besides Apunga, the next step for Hugh and his business focus is continued innovation, which he believes can be achieved through better collaboration.

"As vegetable growers, we're all subject to supply and demand and that affects our profitability because of reduced prices. We need to reduce the supply of our product on the domestic market, whether that is as an industry or individual business," Hugh says.

"Part of that is through export, which is why Ryan and Tahirih moved to Brisbane to focus on marketing. If you've got excess supply due to seasonality or other growers having oversupply, we need to find an outlet for that product, which creates value.

"I think the biggest challenge in vegetables is the lack of collaboration. We need to shift the focus from feeding Australia to feeding Asia and being more collaborative – if we can get that mindset, then I think that the world's our oyster."

Hugh says that is part of where the innovation comes from – developing new products that meet consumer requirements.

"With new products, people don't even know that they want it, but they need it to be convenient and healthy," he says.

"I've spent a lot of time looking at other fresh produce and I just think we're looking at the wrong areas – I think the innovation for us is in convenience and health, not necessarily fresh produce because that's already pretty saturated."

GROWER CHALLENGES

Hugh has faced plenty of challenges over the past 12 years in the vegetable industry. One of these has been labour, which has stemmed from relocating the growing sites and having to recruit new teams to lead the company.

"Like any intensive growing operation, even if it is heavily mechanised, labour is the biggest cost and we're no different. The compliance around that, and recruiting and finding the right people, is an ongoing journey," Hugh says.

"It's probably a bit more specific to our business more than anybody else because we've moved and re-invented our business. We've had to acquire a whole new team at both sites, which is ongoing.

"Compliance is also massive right across the industry. We're growing food for people so we need to grow it safely, and that's just what happens. That's another reason for Apunga: Managing the compliance and improving food safety."

EMPOWERING STAFF

Hugh aims to empower his staff by engaging with the vegetable industry as much as possible. Key Dicky Bill staff have participated in the strategic levy investment project *Growing Leaders* (VG15030), part of the Hort Innovation Vegetable Fund, while Hugh is currently completing the *Masterclass in Horticultural Business* (LP15001), a strategic partnership initiative under the Hort Frontiers Leadership Fund.

"We've spent a lot of time defining our organisational structure, our vision for the business and trying to engage all of our key stakeholders and our staff in our objectives," Hugh says.

"They all know who they report to, how they add value to the business, what the business is about, and I think that's probably missing from a lot of horticultural businesses. I don't think we're better than anybody else; it's just that we've had the challenge to actually build a team quickly so it's been a higher focus and a bigger priority for myself."

ACHIEVING GOALS

A self-described "fourth generation farmer running on first generation capital", Hugh is proud of what he and Ryan have been able to achieve to date.

"Ryan and I had a succession plan with his mother and we've paid our way with everything that we have been able to achieve," he says.

"We've come through some massive challenges and have reinvented ourselves a few times – we're still reinventing ourselves.

"We've moved our farming operations to completely different areas and Ryan left the farm to go marketing. Now we've gone from a normal salad-growing operation towards a vertically integrated business. The next step is actually going away from a fresh produce business to a convenience or a health food business.

"We're just starting that journey."



SF Fresh! Australia Quality Assurance and Compliance Manager Asia-Pacific David Bradfield. Images courtesy of Mike Lamond, Fairfax Media.



Fresh Markets Australia Executive Officer Gail Woods.

CREATING A CULTURE WHERE FOOD SAFETY IS TOP PRIORITY

On 9 August 2017, 150 fresh produce industry members from throughout the supply chain attended the fourth annual Fresh Produce Safety Centre conference in Sydney. There were many thought-provoking speaker sessions, where attendees heard the latest in research outcomes and innovation in the food safety sphere. AUSVEG Environment Coordinator Andrew Shaw reports.

Food safety is an evolving world of research, compliance and communication. Maintaining and understanding current research to drive cultural development from a leadership position is key to the production of safe and fresh produce.

This was the focal message at the fourth annual Fresh Produce Safety Centre (FPSC) conference, the result of a partnership between the Produce Marketing Association Australia-New Zealand (PMA A-NZ) and the University of Sydney.

The conference was held at the University of Sydney on 9 August 2017, with industry, retailers, wholesalers, growers, testing laboratories, certification bodies and researchers from Australia and New Zealand gathering to discuss emerging challenges, projects and research within food safety.

Held in combination with the Freshcare Forum and GLOBALG.A.P. Tour Stop the previous day, 150 fruit and vegetable industry professionals and researchers met to discuss the conference theme of *Science + Culture = Safe food*.

INDUSTRY PRESENTERS

The day comprised a series of interactive speaker sessions and networking opportunities, with food safety expert and Cultivate Principal Lone Jespersen providing the keynote address. She told the audience that food safety culture begins at the top and should empower all workers at all levels who hold the responsibility of safe food practices.

Simplot Australia National Quality Manager Phoebe Dowling spoke about the virtues of cultural standards set by leadership, saying that it becomes easier to embed or shift behaviour if it is driven by leadership. She also revealed that a review of Simplot's food safety processes over the past 12 months aims to reduce its foreign object complaints by 50 per cent by 2020.

OneHarvest General Manager Andrew Francey reiterated the importance of food safety from the top down, stating that it is the number one strategic pillar in his business and the top priority at the company's board meetings each month.

FOCUS ON LEAFY GREENS

Neil McSkimming, Senior Policy Analyst at the Victorian Department of Economic Development, Jobs, Transport and Resources (DEDJTR), delivered key findings on the report, *A review of on-farm food safety for leafy greens*, in which he concluded that a focus on industry support and education is the most effective way of reducing the likelihood of any future food safety incidents.

In talking about his research into Salmonella growth and control on leafy greens, Dr Mark Turner from the University of Queensland explored the use of probiotics in bagged salad. This method of increased food safety was highlighted as an avenue to develop a value-added product that delivers additional health benefits to consumers.

EXPLORING NEW OPPORTUNITIES

Other conference presentations covered the changing landscape of food safety regulations and requirements in the United States. Highlights of recent research outcomes in whole genome sequencing and safe agricultural water were reported, as well as a review of the roll-out of the new Harmonised Australian Retailer Produce Scheme (HARPS).

The HARPS scheme is a world-first initiative to harmonise the food safety certification requirements of Australian retailers. It applies to whole fruit, whole vegetables and nuts-in-shell;

however it does not apply to processed or value-added lines.

Despite the good reputation of fresh food produced in Australia, food safety is still front of mind for the fresh produce industry, particularly following recent high-profile product recalls and the detection of counterfeit food products overseas. The reputation of Australian fresh produce as clean and green is underpinned by the work of those present at the 2017 FPSC conference, which offers confidence that the industry's reputation is in safe hands.

Presentations at the conference were live streamed on the *Good Fruit and Vegetables* Facebook page, where they are available to be viewed by the public at [facebook.com/GoodFruitandVegetables](https://www.facebook.com/GoodFruitandVegetables).

R&D

- Consumer Alignment
- Drive Train
- Market & Value Chain Development
- Farm Productivity, Resource Use & Management

INFO

For more information on the role of the Fresh Produce Safety Centre, please visit freshproducesafety-anz.com.

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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Hort Innovation Relationship Manager Sam Turner.

SAM TURNER: STRATEGIC INVESTMENTS IMPROVE INDUSTRY PROFITABILITY

Hort Innovation, using the vegetable research and development levy and contributions from the Australian Government, invests in a wide range of R&D projects that aim to ensure the long-term sustainability of the vegetable industry and its growers. *Vegetables Australia* spoke to Hort Innovation Relationship Manager Sam Turner about his new role in grower and industry engagement.

One of the newest faces to the Hort Innovation team is Relationship Manager Sam Turner, who forms a key link between Hort Innovation and Australia’s growers.

Sam is a point of contact for growers to get information on how their levy is being strategically invested, and provides them with the latest on R&D and industry developments. He also co-ordinates industry engagement.

Sam joined Hort Innovation in April 2017, and he works within two of the four strategic investment pillars that guide levy investment in the vegetable industry: Farm Productivity, Resource Use and Management; and Drive Train. He also manages the melon and processing tomato industries.

FOCUS ON GROWERS

Sam works very closely with his Strategic Investment Advisory Panels (SIAPs). These skills-based panels are primarily made up of levy-paying growers tasked with providing advice to Hort Innovation on strategic levy investments.

“The vegetable industry is such a wide and varied sector. In theory, managing the interests of so many commodities across the breadth of the country is a challenge,” Sam said.

“Thankfully I’m able to rely on the SIAPs to help me service the industry.”

Sam is embracing the opportunity to visit a range of farms to better connect with and learn from Australia’s vegetable producers.

“Now is a particularly exciting time to be involved in the vegetable industry,” he said.

“With amazing technology becoming increasingly available and affordable, there’s the opportunity to greatly increase on-farm profitability. The growth in demand for veg from our trading partners offers growers an alternative market for our high-quality produce.

“The expansion of the export market will also help to take supply off the domestic market, potentially driving greater returns for growers through increased prices.”

GET IN TOUCH

As a Relationship Manager, Sam wants to make sure that growers remain well-informed about industry activities.

“I’m looking forward to engaging further with growers and ensuring that Hort Innovation’s R&D brings meaningful impact to their businesses,” he explained.

“Considering the size of the industry I can’t always be on the ground with all growers, but I’m always available on the phone or via email. I’m here to listen to growers and ensure that the vegetable levy is invested in the R&D that will most benefit industry. I’m here to bounce project ideas off and to help find information. As Hort Innovation is a grower-owned research and development corporation, I’m here to ensure that all growers are represented.”

R&D ■ Drive Train

INFO

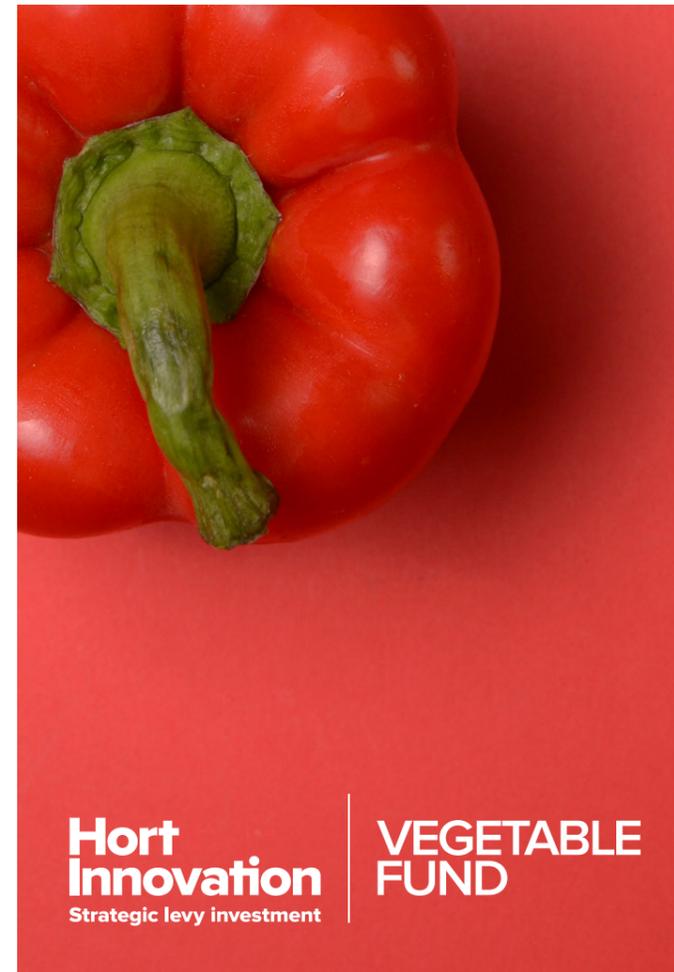
For more information relating to levy-funded research and development projects being delivered through Hort Innovation, please visit horticulture.com.au or contact Hort Innovation Relationship Manager Sam Turner on 0403 093 227 or at sam.turner@horticulture.com.au.

Details of the SIAPs can be found on page 47 or on Hort Innovation’s Vegetable Fund webpage at horticulture.com.au/grower-focus/vegetable.

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

Project Number: VG15027



LOOK OUT FOR THE HORT INNOVATION VEGETABLE FUND LOGO

You may have noticed there’s been a little snipping to the name and logo of Hort Innovation recently. Because industry has come to know the research and development corporation as simply ‘Hort Innovation’, rather than ‘Horticulture Innovation Australia’, that’s what it’s now officially called.

Vegetable growers and stakeholders will also notice the introduction of a handy new logo specific to the industry. You can now look for the ‘Hort Innovation Vegetable Fund’ logo (pictured left) to quickly and easily identify projects and outputs related to the strategic investment of your levy. You’ll begin to see this logo pop up on all the resources from projects funded by your levy, from fact sheets and videos to handbooks and reports.

INTRODUCING HORT FRONTIERS

Last but not least, Hort Innovation’s strategic co-investment work – which you may previously have known as ‘Pool 2’ – is now officially known as the Hort Frontiers strategic partnership initiative. Hort Frontiers sits alongside but is separate to the organisation’s core work of strategic levy investment.

You can read more about the slight brand changes at horticulture.com.au.

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DISCUSSING BIOSECURITY AND TRADE IN THE EVENT OF AN INCURSION

In this edition of *Vegetables Australia*, AUSVEG Biosecurity Adviser Dr Kevin Clayton-Greene discusses the close interaction between biosecurity and trade, particularly following the detection of an exotic plant pest, and how industry can contribute to the decision-making process.

While they are not synonymous, trade and biosecurity are almost flip sides of the same coin – one cannot happen without the other.

One of the first consequences of an incursion is a restriction on trade from the jurisdiction in question. Under Australia’s federal system, each jurisdiction has the freedom to impose whatever conditions it feels are scientifically justifiable.

Industry’s role in this process is limited. Industry has no formal process for engaging with either the Plant Health Committee (PHC) or the Sub-committee on Domestic Quarantine and Market Access (SDQMA).

However, a substantial degree of harmonisation among jurisdictions has been achieved so that both producers in the affected state and importers elsewhere are not faced with a number of often conflicting requirements. In these cases, AUSVEG does not advise upon what is or should be the conditions, but can advise regulators of standard industry practice and also try to ensure regulations acknowledge industry practices when assessing risk and imposing conditions for trade.

WHERE DOES RESPONSIBILITY IN ENSUING TRADE AND RISK OCCUR?

Under our biosecurity system and those of trading partners (both domestic and overseas), it is the responsibility of the country wishing to export to provide to the jurisdiction for imports what it believes are suitable measures for reducing risk to an acceptable level. The recipient jurisdiction then has the legal right (based upon science and risk) to accept or reject such proposals. Again, the onus to obtain market access is on the exporting jurisdiction, not the destination. In such circumstances, industry, including AUSVEG, can help facilitate this process and as mentioned above try to ensure that wherever possible, the proposed solution is a harmonised one.

In the case of exports, there is no fixed rule either and this is no better illustrated by trading partners’ responses to Queensland fruit fly (Qfly). Our trading partners have placed quite disparate conditions upon Australia’s horticultural produce that hosts fruit fly. This ranges from recognition of host species through to import conditions and even prohibition. Every market must be negotiated separately by the Federal Government.

Clearly in such circumstances, there is little prospect of harmonisation and little role we (industry) can play in getting a

uniform export protocol. However, evidence of acceptance by one country can be used as part of the case for acceptance of a proposed protocol.

FURTHER ADVICE

Another key role in the domestic process are two other sub-committees of the PHC: The Sub-committee on Plant Health Diagnostics (SPHD) and also the Sub-committee on National Plant Health Surveillance (SNPHS). They provide advice to regulators on the ability to identify pests and the best methods for surveillance. This helps feed into the risk assessment process and also informs trade decisions. For example, unless a pest can be identified and monitored satisfactorily, it is unlikely that trade will occur. Industry can assist these committees and provide advice if called upon. Again, this is now occurring, which was formerly not the case.

A potential gap in the system at this point is sufficient expertise and training in risk assessment, and this is perhaps an area that requires further discussion.

Greater detail on these committees can be found on the Department of Agriculture and Water Resources website at agriculture.gov.au/plant/health/national-arrangements.

THE BOTTOM LINE

An important ‘take home’ message is that despite these committees being government-mandated and comprised of government members, industry is now being asked to contribute to help inform decision-making. This is a development that has been welcomed by all sections of the industry.

R&D ■ Farm Productivity, Resource Use & Management

INFO

For more information, contact AUSVEG on 03 9882 0277 or email info@ausveg.com.au.

The project *Consultancy Services for Strengthened Biosecurity of 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

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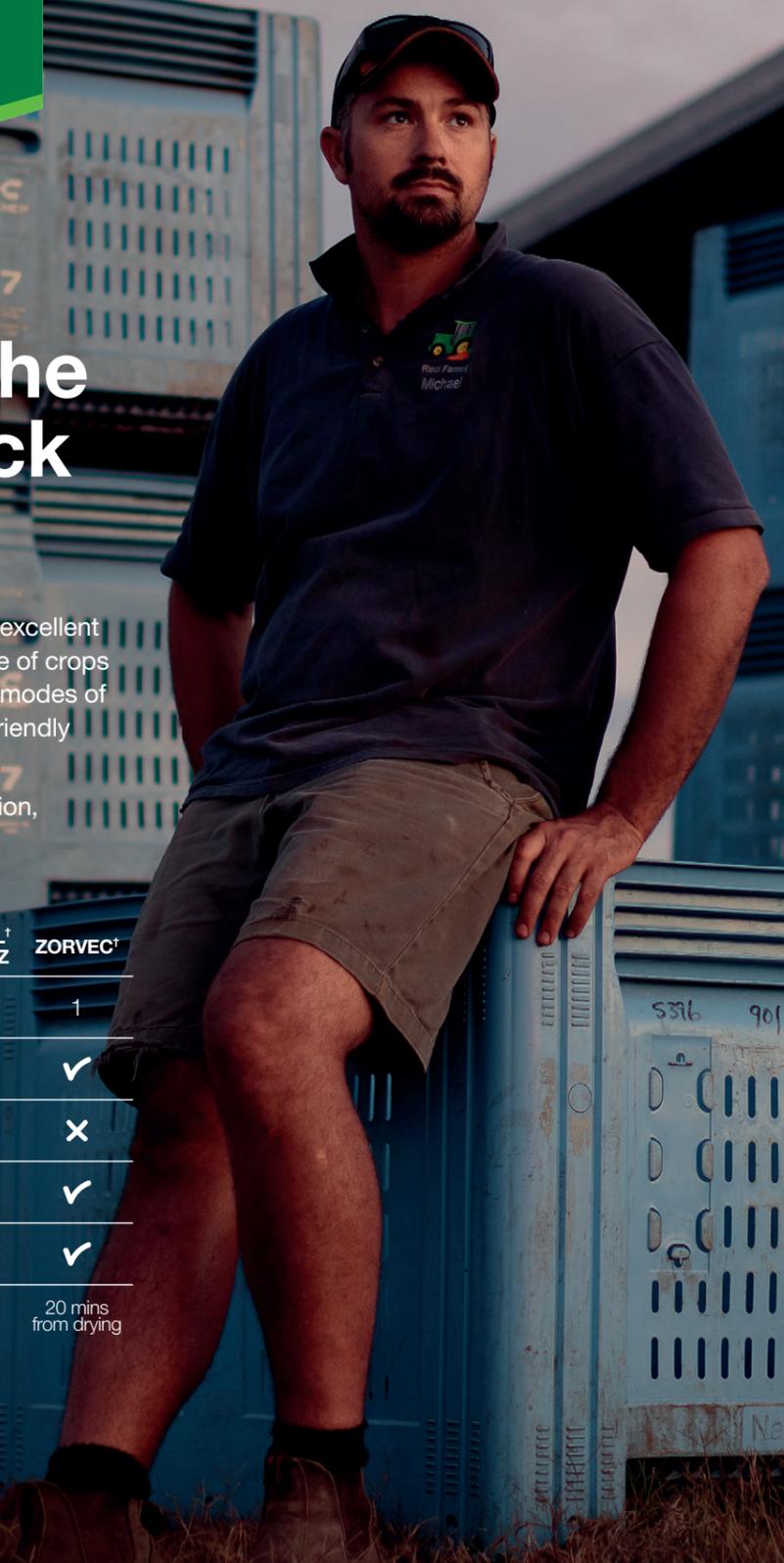
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SLIMY SNAIL A GIANT THREAT TO THE AUSTRALIAN HORTICULTURE INDUSTRY

The Giant African snail (*Achatina fulica*), native to eastern Africa, is now highly established in many countries around the world. In this edition of *The Front Line*, AUSVEG Biosecurity Officer Madeleine Quirk spoke to American biological scientist Dr Shweta Sharma about the snail's unwanted presence in Florida and the precautions that the Australian vegetable industry should take to keep the country free of this giant pest.



Giant African snails (GAS) are plant pests that affect a number of regions globally. Originating in eastern Africa, this pest has established itself in most tropical regions including Asia, the Pacific, the Americas and parts of Europe.

The snail features a narrow conical shell with brown and cream stripes. While the shell ranges in length from five to 10 centimetres, the snail itself can grow up to 20 centimetres, making the GAS easily distinguishable from other snails. The eggs are ovular and cream-yellow in colour.

Dr Shweta Sharma, a biological scientist at the Florida Department of Agriculture and Consumer Services, studies the GAS in the United States. Part of her work focuses on snail trapping and identifying snail attractants. Although the GAS has not yet become established in Australia, Dr Sharma highlighted the importance of taking precautionary measures to prevent the pest from entering Australia.

A DESTRUCTIVE AND RESILIENT PEST

The GAS is one of the world's largest land snails. It poses a biosecurity threat to Australia because it is responsible for a great deal of damage to native plants, crops and human health.

The snail typically feeds on more than 500 species of plants. It is also capable of destroying entire plants, eating the stem, leaves, flowers and fruits of bananas, beans, brassicas, cucurbits and solanaceous plants. If these creatures cross our borders permanently, the Australian horticulture sector may experience reduced crop yield, crop death, costs of controlling the pest and cosmetic damage to produce.

These snails have an interesting reproductive system. As Dr Sharma has observed in laboratory studies, adult snails can lay up to 4,000 eggs per year.

"They are hermaphrodites and are also able to self-fertilise," Dr Sharma said.

This means that if they are left undetected for even a short period of time, rapid colonisation can occur.

The pest is also capable of surviving in a variety of climates. The snail thrives in tropical to subtropical environments but can withstand colder temperatures, and in below freezing conditions, it will enter a dormant state.

The snails also pose a risk to human health. GAS can contract rat lungworm (*Angiostrongylus cantonensis*), which can be spread to humans and cause meningitis.

Like other land snails, the GAS has limited capacity for movement. In a single year, the average GAS will move 250

metres at most. Therefore, the main introductory pathways to Australia include on plant material, crates and containers, vehicles and machinery. Snail eggs may be found embedded in soil.

GAS may also be imported illegally by individuals with the purpose of keeping the snail as a pet.

LESSONS FROM FLORIDA

According to Dr Sharma, the GAS was first established in Florida in the late 1960s but was eradicated by 1975. Although Florida remained free from the pest for more than 30 years, a population was discovered in Miami in September 2011.

"Eradication efforts such as hand collection, chemical treatment and debris removal were initiated as soon as the snails were found," she said.

US\$11.5 million has been spent so far on the eradication effort, and Dr Sharma also noted that the most recent eradication measures were funded jointly by the United States Department of Agriculture (USDA) and the Florida State Government.

In response to the detection in 2011, the Florida Department of Agriculture and Consumer Services ran a project to combat the GAS. The project includes designing effective snail traps and identifying suitable attractants that can lure snails out of hiding.

"We rely heavily on metaldehyde to eradicate GAS, however we are also trying to use attractant to test if they can be lured from hiding so that they can be treated with metaldehyde."

Metaldehyde is a common snail poison that directly affects the snail's nervous system.

REDUCING BIOSECURITY RISK

Dr Sharma urged Australians to remain vigilant and informed when it comes to the GAS and reiterated the importance of increasing public awareness about the health hazards associated with the pest. In Florida, 80 per cent of snail identifications can be attributed to hotlines which have been established to report the pest, and this highlights the importance of reporting suspected pests.

The Department of Agriculture and Water Resources inspects crates and containers from countries identified as high risk for GAS. However, it is also the public's responsibility to be aware of the snail's unwanted presence. Implementing biosecurity best practice procedures gives growers the best chance of preventing the snail's entry onto their properties.

In the event of a suspected detection of the GAS, report the pest immediately to the Exotic Plant Pest Hotline on 1800 084 881. In Queensland, the GAS is listed as prohibited matter under the *Biosecurity Act 2014*.

R&D ■ Farm Productivity, Resource Use & Management

INFO

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

For further information, contact AUSVEG National Manager – Science and Extension Dr Jessica Lye or AUSVEG Biosecurity Officer Madeleine Quirk on 03 9882 0277 or jessica.lye@ausveg.com.au or 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

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GIANT AFRICAN SNAIL: AUSTRALIAN OUTBREAKS THROUGH HISTORY

- 1977 – Gordonvale, Queensland: Approximately 300 snails were found. Eradication was successfully carried out after the incursion and took eight months.
- 2004 – Currumbin Valley, Queensland: A single snail was found at a steel factory.
- 2013 – Brisbane, Queensland: A single snail was found in a Brisbane container yard.

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Dr Marie-Astrid Ottenhof and Adam Schreurs.



Marie-Astrid with her nephew.

DR MARIE-ASTRID OTTENHOF: ADVANCING THE FOOD SAFETY CAUSE

Food safety and quality assurance are two of the most important factors to consider when growing vegetables for human consumption. In this edition of *Vegetables Australia*, we speak to Schreurs & Sons Technical Director and 2017 Women in Horticulture award nominee Dr Marie-Astrid Ottenhof about the role she plays in the business, and the latest in sanitising technologies that have been implemented at Schreurs.

Schreurs & Sons is well-known for its innovation in the vegetable industry, with the third-generation farming business exporting its celery, leek and baby leaf lettuce varieties to the world as well as participating in many industry initiatives.

However, one of the secret weapons for the business is its staff – and Dr Marie-Astrid Ottenhof (Astrid) is no exception. Astrid joined Adam, Ben and Chris Schreurs' growing operation in Clyde, Victoria, three years ago and hasn't looked back since.

As Technical Director at Schreurs, Astrid looks after all quality assurance matters which includes setting up the business' systems so that they comply with all the relevant regulatory and customer standards, and the product development that accompanies them.

With a background in food science, Astrid moved to Melbourne 13 years ago and started working with Salad Fresh (later known as PM Fresh), a company that processes vegetables and ready-to-eat salads. After stints at PM Fresh's Brisbane and Sydney sites, Astrid returned to Melbourne and commenced her work at Schreurs.

KEEPING PRODUCE CLEAN

In July this year, Astrid presented at the Produce Marketing Association Australia-New Zealand (PMA A-NZ) Tech Event, which was held at the Melbourne Market for members throughout the produce supply chain.

Entitled *New Sanitising Technologies – Without chemicals*, Astrid discussed the implementation of Electrolysed Oxidised Water at Schreurs and the benefits it has brought to the organisation.

"Before I joined the company, they had already done a fair bit of work together with Dr Robert Premier (a Private Consultant for Global F.S. Pty Ltd), who's a leader in this area. They were looking at oxidised water to help clean the vegetables," she explained.

"The advantage of this system is that it's basically chemical-free – the only thing we need to add to help speed up the reaction is a little bit of table salt."

The system is conducted through electrolysis, which generates a healthy cocktail of different sanitising compounds.

"It's a very effective way of reducing our bacterial count in the wash water, making sure that the product that comes out at the end is good to consume or process further," Astrid said.

This system has the possibility of becoming standard practice worldwide.

"Globally, there are still a lot of growers using chlorine-based sanitisers. A lot of countries around the world, especially in Europe, are starting to ban chlorine-based sanitisers because they can create potentially carcinogenic compounds when they react with certain chemicals," Astrid said.

"That's the beauty of this oxidised water – even though we generate a little bit of chlorine, there are so many compounds that we also generate, which enable you to run at a much lower concentration compared to pure chlorine systems."

INDUSTRY ENGAGEMENT

Astrid gained an insight into the growing and processing operations in the United States and Canada in October last year when she joined eight female vegetable growers on the

2016 Women's Industry Leadership and Development Mission (VG15703), a strategic levy investment under the Hort Innovation Vegetable Fund.

While Astrid said it was a fantastic experience to see the different ways in which the vegetable facilities operate overseas, the highlight for her was learning about the other women on the mission.

"I found it fascinating to understand some of the hardships that they've gone through and the different issues that they face, especially since I don't come from a growing background," she said.

"I have a lot of respect for women in the industry and what they go through on a day-to-day basis to keep their businesses running."

INSPIRING OTHERS

As Technical Director at Schreurs, Astrid's aim is to stay ahead of the game from a food safety perspective. She added that working in the horticulture industry is extremely rewarding.

"We're constantly trying to look at ways to improve and be better than our competitors, and passing that food safety message on," she said.

"The horticulture industry has a lot to give women, and I think women can give a lot to the industry as well. The industry is changing rapidly – there's never a dull moment which, from my point of view, is fantastic.

"I think you can learn a lot, and I've just been very lucky to become part of the Schreurs team. Adam, Ben and Chris have been very supportive of what I want to do. I'm very fortunate in that respect."

Astrid was also recognised for her work in the industry earlier this year after she received a Women in Horticulture award nomination at Hort Connections 2017.

"It's recognition for the work and from a quality assurance point of view, trumpeting the food safety message," she said.

"It was an honour to be recognised. I hope to inspire other women coming into the industry who hopefully take a keen interest in food safety and are able to pass that message on."

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THE DICKEYA DIANTHICOLA RESPONSE IN WA

Confirmation of the bacteria *Dickeya dianthicola* in Western Australian commercial potato crops has been difficult news for the state's potato industry, which is still facing trade restrictions due to the detection of tomato-potato psyllid earlier this year. The Western Australian Department of Primary Industries and Regional Development has provided an update on the current situation.

As of 24 August 2017, *Dickeya dianthicola* had been confirmed on four commercial potato growing properties, and five properties were in quarantine. The bacteria had been detected not only in potato tubers and plants, but also in dormant dahlia tubers found on a property where commercial seed potatoes were being grown.

Following two months of a dedicated incident response by the Western Australian Department of Primary Industries and Regional Development (DPIRD), evidence indicates that the infected dahlia tubers are the likely source of *Dickeya dianthicola* infestation in Western Australia.

A TRANSFERABLE DISEASE

DPIRD Irrigated Agriculture Executive Director John Ruprecht said *Dickeya dianthicola* has a large potential host range, including not only potatoes but a range of ornamental flowers, as well as artichoke and chicory.

It can persist in the soil for up to 12 months, and in Western Australia it has appeared to move from dahlia to potato, proving that it can easily transfer between different host crops.

"From the very beginning the department made tracing a priority to not only determine the extent of the outbreak, but to also identify potential pathways and the source of the disease," Mr Ruprecht said.

"This included the devotion of staff and time to extensive surveillance, sampling and testing, and thorough investigation of the movements of seed potatoes and the dahlia tubers on and off infected properties.

"Twenty-seven properties were sampled, and there were traces to some 64 properties. The end result was a complicated trail of potato seed and dahlia movement not only throughout Western Australia, but also to and from other states. This included the discovery that the dahlia tubers had been planted first, with potatoes subsequently being planted in the same plot."

In response to these results, other states have been asked to also survey and test for the pathogen.

Mr Ruprecht said the department recognised the detections had come at a difficult time for potato growers.

"We have made every effort to work closely with Western Australia's potato industry, and also with national stakeholders, to minimise the spread of the pathogen and economic impact to the industry," he said.

"This has included carrying out risk assessments of quarantined properties to determine how they can sell their ware potatoes

without risking spread of the disease to other properties.

"Based on these assessments, the department has developed an interim strategy that can facilitate potato sales, which includes working with potato wash/packing facilities to ensure they have biosecurity measures in place.

"To date, five facilities and four growers have been issued with Pest Exclusion Notices – enabling them to market their non-infected ware potato crops."

LOOKING AHEAD

Mr Ruprecht said the department had made great progress in developing strategies for growers that can help prevent further spread of the disease, to ensure the impact on affected industries is as small as possible.

"This includes development of strategies to protect against and manage the pathogen, and options for ongoing surveillance and testing. Additionally we have hosted information sessions with WA Potatoes (formerly known as the Potato Growers Association of Western Australia) to seek feedback from industry on how to manage the disease moving forward.

"Of critical importance is to provide growers with information on farm biosecurity measures that are effective in protecting their crops from *Dickeya dianthicola* infection. This disease has been managed overseas for many years, and therefore there is a wealth of information to draw upon."

Mr Ruprecht said there were currently no additional trade restrictions imposed on Western Australia potatoes, other than what is already in place in response to the tomato-potato psyllid.

Trade in cut flowers is already subject to a number of disinfection treatments for other pests.

R&D  Drive Train

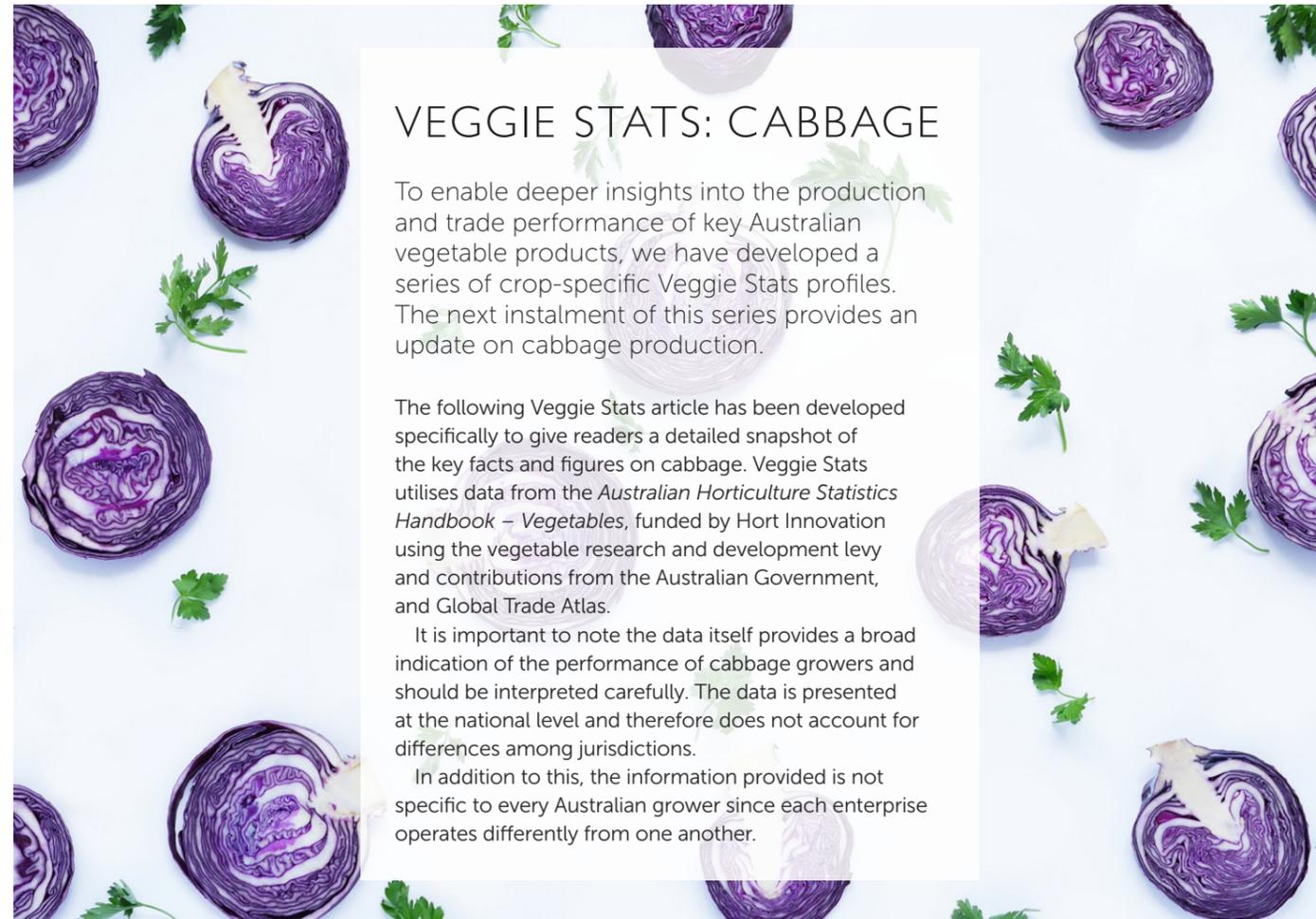
INFO

Dickeya dianthicola and biosecurity information sheets can be downloaded from agric.wa.gov.au/ddianthicola.

Growers are urged to report any signs of *Dickeya dianthicola* in Western Australia to the Exotic Plant Pest Hotline on 1800 084 881.

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

Project Number: VG15027



VEGGIE STATS: CABBAGE

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 cabbage production.

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

It is important to note the data itself provides a broad indication of the performance of cabbage 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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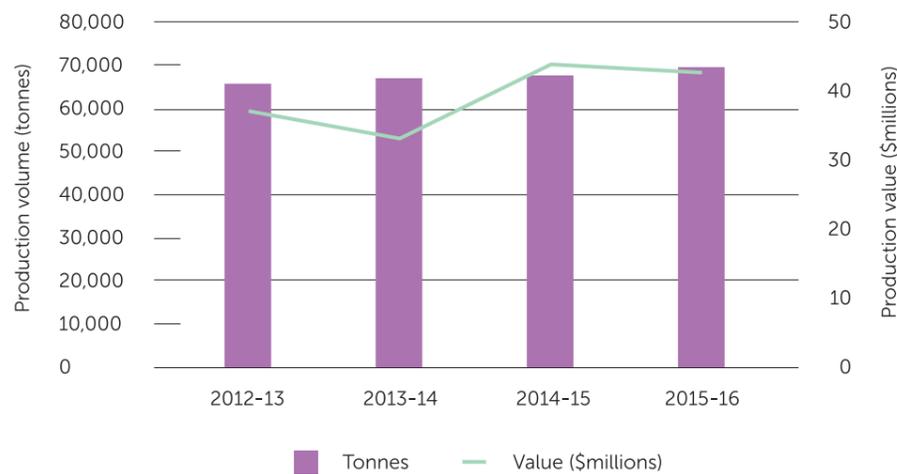
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VEGGIE STATS: CABBAGE

KEY STATISTICS

- Australia produced around 69,400 tonnes of cabbage in the 2015-16 financial year, an increase of over 1,900 tonnes on the previous year.
- There were around 280 cabbage producers and around 2,340 hectares sown to cabbage in Australia in 2015-16.
- Exports of edible brassicas* earned over \$4.6 million in 2016-17.

FRESH CABBAGE PRODUCTION

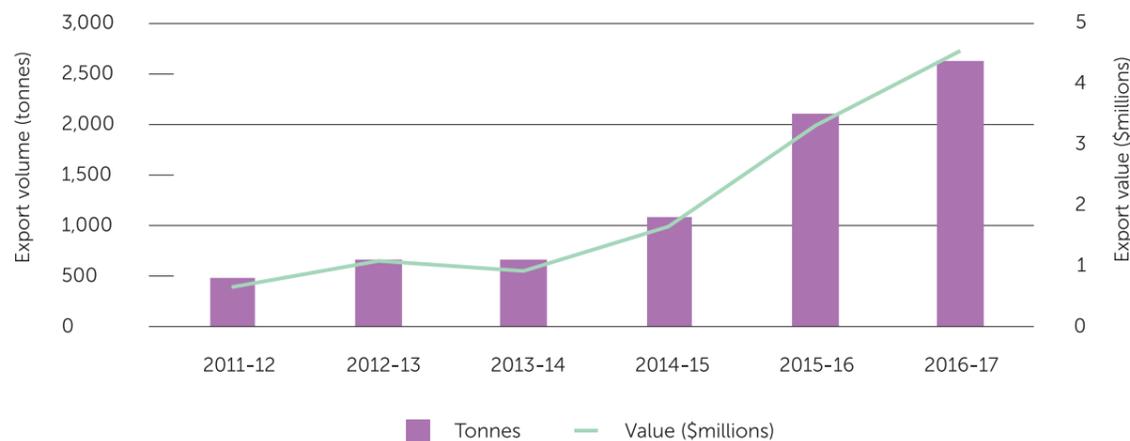


Source: Australian Horticulture Statistics Handbook - Vegetables, Hort Innovation, various years.

TOTAL EXPORTS

- Exports of edible brassicas* suffered a downturn for several years due to a range of market forces, including the value of the Australian dollar, but have shown growth over recent years.
- The export value of edible brassicas* has increased significantly over the past six years, roughly in line with the overall export volume over the same period.

TOTAL EXPORTS OF EDIBLE BRASSICAS* (FRESH OR CHILLED)



Source: Global Trade Atlas. *Excluding cauliflower, broccoli and Brussels sprouts.



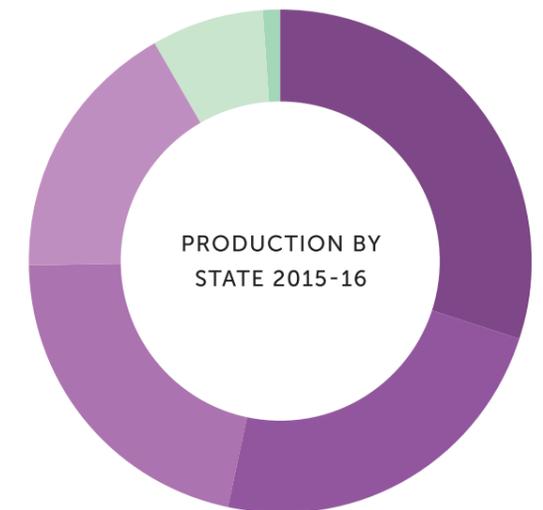
FACT: American baseball legend Babe Ruth wore iced cabbage leaves under his hat to keep cool while playing.

STATE PRODUCTION

- Australia produced around \$42.6 million worth of cabbage in 2015-16, down from around \$44.1 million in 2014-15.
- Victoria produced around 28 per cent of all cabbage grown in Australia in 2015-16, followed by Queensland, which produced over 20 per cent.



Source: 2015/16 Australian Horticulture Statistics Handbook - Vegetables, Hort Innovation, 2017.



KEY EXPORT MARKETS

- Singapore and Japan were by far the most valuable export markets for Australian edible brassicas* in 2016-17, individually worth more than the next three biggest markets (Taiwan, Hong Kong and Indonesia) combined.
- While Japan was the biggest market by value in 2016-17, Singapore has historically been the most valuable market over the past 20 years.



Source: Global Trade Atlas.

R&D

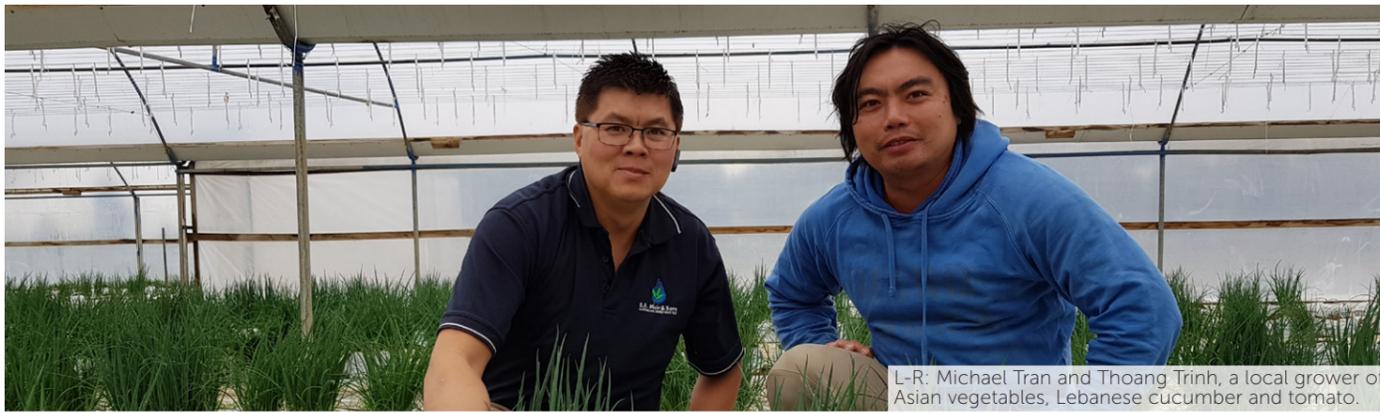
Drive Train

INFO

The Economist Sub-Program is a component of the Vegetable Industry Communication Program 2015-16. This project has been funded by Hort Innovation using the vegetable research and development levy and contributions from the Australian Government.

Project Number: VG15027





L-R: Michael Tran and Thoang Trinh, a local grower of Asian vegetables, Lebanese cucumber and tomato.

GIVING ASIAN GROWERS A VOICE IN THE AUSTRALIAN VEGETABLE INDUSTRY

Former tomato grower Michael Tran was recognised for his leadership and representation of Languages Other Than English (LOTE) growers at Hort Connections 2017. As President of the Western Victoria Vegetable Association and an E.E. Muir & Sons employee, Michael spoke to *Vegetables Australia* about the challenges that Asian growers face and how he assists them in understanding the Australian vegetable industry.

Michael Tran's work with the Asian community is divided into two categories – the former hydroponic tomato grower is now the Hydroponics/Asian Veg Consultant at E.E. Muir & Sons, a major distributor of fertilisers, crop protection products, seeds and other farm supplies. He is also President of the Western Victoria Vegetable Association (WVVA), a position he has held since its inception.

Through his position at both E.E. Muir & Sons and the WVVA, Michael bridges the language barrier presented to Asian growers when they are working with crop protection products, and assists them in interpreting quality assurance standards and requirements. He also helps Languages Other Than English (LOTE) growers understand local issues such as building and planning permits.

In addition to his day-to-day activities, Michael organises many events for Victorian growers to attend, including farm meetings, chemical users' and quality assurance courses. He also provides refresher chemical course opportunities so that growers can stay up-to-date with legislation and laws at a national and local level.

Michael was recognised for his contribution to the vegetable industry in May after taking home the Community Stewardship award at the Hort Connections 2017 National Awards for Excellence.

"It's a bit of a surprise, and it's an honour to be recognised," he said.

"I'm grateful for the acknowledgement from the industry but I used to be a grower; I've been on both sides of the fence, so I know what the growers go through and I know what the industry tradespeople are trying to do too.

"I'm trying to get everybody to meet halfway. As long as everybody's making money in the right manner, it's all going to go well and it's going to be sustainable for the long-term."

OVERCOMING CHALLENGES

Education and reinforcing rules and regulations to LOTE growers are issues that Michael faces on an ongoing basis, however he

is embracing these challenges head-on with the support of his employer, E.E. Muir & Sons.

"It's about showing the growers the benefits of using the new technology and practices in the workplace," he said.

"You need to teach LOTE growers about words such as 'sustainability' and 'environmental practices', because it's not part of the culture they come from to worry so much about the environment. I hate to say that, but in Australia – working with the environment and the crop protection products that we're actually using in our workplace – it is a big issue to be managed."

To educate growers, Michael organises food safety handling presentations which are given by various members of the vegetable industry, including AUSVEG.

COMMUNITY SPIRIT

One of the future hopes of the WVVA is to have growers using less harmful and more environmentally-friendly products, as well as practising safe work methods.

"That is, working on tractors, working on forklifts, having signage out as well as promoting solar electricity and LED lighting," Michael explained.

"Hopefully in the long-term, growers will be able to grow a better, safer and cleaner product and be profitable at the same time. Every year, my challenge is for every grower that I work with to increase their knowledge and be better than what they were last year. That's my challenge."

INFO

For more information or to join the Western Victoria Vegetable Association, please visit www.wvva.org.au.

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Ag robot RIPPA was on display at the Riverina Vegetable Innovation Field Day.



EXTENSION UPDATES: GIPPSLAND, VICTORIA AND NEW SOUTH WALES

The National Vegetable Extension Network (VegNET) has expanded to include Victoria's southern Gippsland region, with a launch taking place at the Gippsland Growers' Forum in July. Meanwhile, the Riverina region of New South Wales hosted an innovation field day which was well-attended by vegetable industry members. VegNET is a strategic levy investment under the Hort Innovation Vegetable Fund.

GIPPSLAND GROWERS GATHER FOR PROJECT LAUNCH

The southern Gippsland region was officially welcomed into the wider National Vegetable Extension Network (VegNET) at a launch event held in conjunction with the Gippsland Growers' Forum at Korumburra on 27 July.

Around 50 people attended the launch and heard from Vegetable Industry Development Officer for Gippsland Shayne Hyman, East Gippsland Food Cluster Executive Officer Dr Nicola Watts and Cluster Deputy Chair Damien Gannon. Joining the trio at the launch was South Gippsland Shire Council Mayor Ray Argento.

There was a 'snapping of the snowpeas' to mark the occasion and Cr Argento noted that the vegetable industry was important to Gippsland, and those already based in the region needed to ensure its continued growth. The progression of the urban sprawl meant growing operations such as Schreurs & Sons (currently based in Clyde) were gradually relocating to Gippsland, where the region's soil and climate made it easier for vegetables to adapt to their new environment.

VEG PRESENTATIONS

Following the formalities, the Forum got underway with a number of presentations. AUSVEG Biosecurity Officer Callum Fletcher provided an update on the discovery of tomato-potato psyllid in Western Australia. He also spoke about 'DIY Biosecurity: Risk management for your farm' and how to develop an on-farm biosecurity plan.

Dr Watts outlined the Gippsland Regional Agrifood Employment Project (GRAEP), an initiative between Jobs Victoria's Employment Network and the East Gippsland Food Cluster, which aims to connect jobseekers and potential employers in agribusiness. Carl Larsen from RM Consulting

Group spoke about VegPRO (VG15028), a strategic levy investment project under the Hort Innovation Vegetable Fund, which provides training programs custom-made to suit growers' needs.

The final presenter of the afternoon was Anton Zytznik, Senior OHS/WorkCover Consultant with the Victorian Chamber of Commerce. Using the vegetable industry as an example, Mr Zytznik spoke about the risks, reputation and hidden costs of an unsafe workplace.

INNOVATION IS THE WORD IN THE RIVERINA

A gloomy sky and piercing winds could not dampen the spirits of around 100 growers and industry members who flocked to Griffith, New South Wales for the Riverina Vegetable Innovation Field Day on 19 July.

On-farm biosecurity was a clear priority for Troy and Jennifer Millard, who hosted the event on their research, development and extension farm. Designated parking was available for all visitor vehicles and a footbath replaced a red carpet at the farm entrance.

Matt Plunkett, Vegetable Industry Development Officer for New South Wales, welcomed attendees and provided an overview of VegNET's priority areas for extension, including pest and soil borne disease management, cover crops, low-cost protected cropping, robotics, spray application techniques and biosecurity.

TECHNOLOGY STEALS THE SHOW

Innovation was the theme of the field day, with a range of agricultural technology on display.

University of Sydney Research Fellow Dr Zhe Xu presented the keynote address on RIPPA (Robot for Intelligent Perception and Precision Application). It was the first time RIPPA visited the

growing region and attendees were keen to see the robot in action on a trial broccoli plot.

This was part of a broader trial, which evaluated specific functions of the robot and intelligent systems. This included autonomous operations, green-on-green weed detection and mechanical weeding using techniques that can be 'trained' to recognise weeds of various sizes and species, as well as mechanical weeding and data collection at night. RIPPA collected a large amount of data that will support further technology development.

John Cochrane from Glynncorp Electrical then presented on the use of solar power technology on-farm, including solar thermal options, small-scale and large-scale pumping systems, battery storage and off-grid systems.

GETTING A BIRD'S-EYE VIEW OF THE FARM

Deakin University's Dr John Hornbuckle also provided an overview of drone technology in vegetable production. He said agriculture was the second biggest industry for drones after infrastructure and a range of options were available for growers.

Dr Hornbuckle explained the differences between multispectral technology – often used for nitrogen management as it provides a more detailed image of the crop – and thermal technology for irrigation management. He advised that growers who are looking to invest in drone technology should think about the end use application and then choose a drone that meets these requirements.

Rombola Family Farms Agronomist Trent Sosso said the presentation on drone technology attracted him to the event.

"Technology is moving forward and we need to move forward with it and embrace it," he said.

"The way of the future is sensory robotics, and with better use of drone technology we can improve where we are going."

R&D  Drive Train

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.

The project *Regional capacity building to grow vegetable businesses – national coordination and linkage project* 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: VG15049



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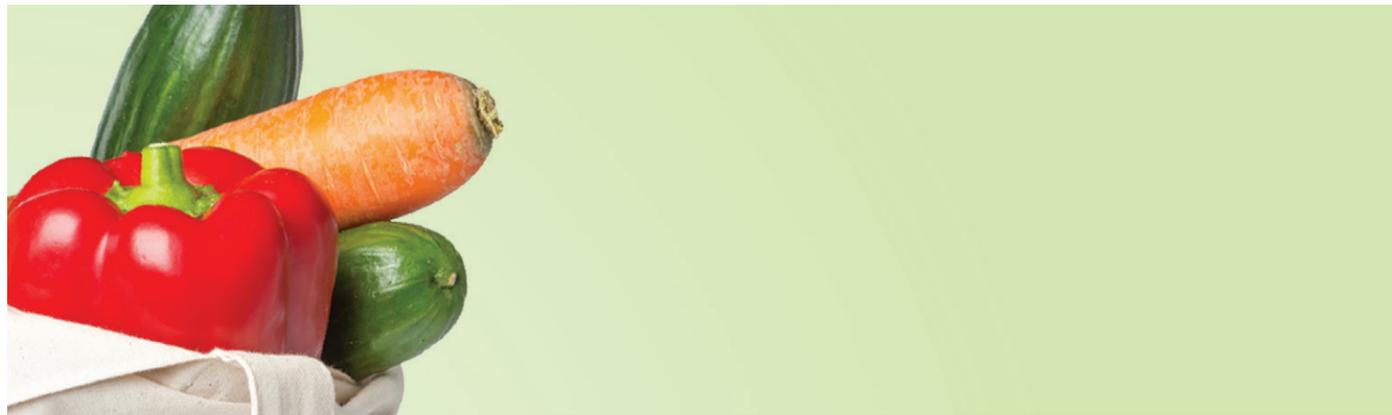
PRODUCE PER ANNUM TONNAGES

- Beans 430 + t/yr approx
- Corn 500 + t/yr approx
- Asparagus 220 + t/yr approx
- Baby Broc 75 + t/yr approx
- Broccoli 190 t/yr approx
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WHAT CONSUMERS ARE LOOKING FOR IN FOOD

Changes in lifestyle patterns have influenced the food product attributes welcomed by consumers. Freshlogic Managing Director Martin Kneebone profiles the underlying consumer attitudes that now affect food buying and what that means for food producers.

Consumers have a range of attitudes towards food, and the strength of these attitudes change over time and vary across household segments. Indications are that consumers are becoming more informed and involved in their food and that this is affecting their expectations.

Freshlogic evaluates and tracks consumer behaviour using unique research tools, including the Mealpulse™ food consumer panel, which delves into prevailing attitudes and values and how they influence the behaviour of today's fresh food consumers.

WELLNESS IS AN EVERYDAY AIM

Consumers are now viewing food as their wellness platform and are eating to feel good and improve their health. Almost one third of Mealpulse™ panellists have made changes in their food buying purchases to enable positive health considerations. In the year ending June 2017, the proportion of panellists trying to eat more fruit and vegetables increased to 40 per cent, while those trying to eat calcium-rich foods grew to 38 per cent. Panellists appear to be managing their health considerations through positive lifestyle changes, with 31 per cent reporting that a low-fat diet is their way of life.

This awareness has been fuelled by the increasing reach of social media, where content on wellness ranks highly and encouraging others to improve the quality and state of their health is a positive way to grow readership. This increased activity from bloggers and social commentators has amplified the profile of food properties and their potential impact on overall health and wellbeing.

There is scope for food producers and marketers to become involved with social media, and to work with social influencers to impact attitudes and ultimately behaviour. Products that positively and clearly communicate their benefits for longer-term, improved health are clearly welcomed.

The wellness priority is also reflected in that almost half of Mealpulse™ panellists actively seek to buy additive-free food. This clean label trend has boosted investment into ingredient research and development, presenting an opportunity for vegetable growers. Labels and marketing material are being redesigned to improve transparency and ultimately gain consumer trust.

WHERE MY FOOD COMES FROM

Consumers continue to be more interested in understanding the story behind their food. This invites a well-told provenance story around a product to inform consumers and also establish a connection to the producer and their produce.

Mealpulse™ panellists indicated a willingness to pay more for 'local' (42 per cent), 'free-range' (35 per cent) and 'organic' (23 per cent) attributes. 'Local' has been elevated by consumers over product system attributes, likely due to differing value propositions.

With the recent growth of culinary tourism, the interpretation of 'local' has expanded to place a greater emphasis on 'location'. This allows for the positive reputation of a production region to be leveraged, and higher value captured. There is scope for a well-told regional provenance story, often supported by tourist investment, to complement 'local' claims and reach more consumers.

REDUCING HOME WASTE

Concern about origin is evolving to include concern regarding sustainability and waste minimisation, as these factors also contribute to feeling good about food. Consumers typically view waste as irresponsible, and it is influencing how they shop. Almost 70 per cent of Mealpulse™ panellists would buy a smaller portion to avoid throwing food out. At 81 per cent, empty nesters are the household segment most averse to waste.

Reducing waste can present challenges to the traditional growth model, as consumers who effectively manage waste may ultimately require less product volume. However, the popularity of 'ugly' produce indicates that there may be opportunities to increase yields through the sale of products previously considered unacceptable. Additionally, aversion to waste appears to be strengthening demand for smaller portions, which typically generate higher values. Likewise, waste concerns also support demand for recipe kit meals, where quantities provided are carefully matched to requirements and waste is all but eliminated.

MAKE FRESH EASIER

Australians are increasingly working non-conventional hours, which has created pressure on the time available to shop and

prepare meals. Households now typically shop 3-4 times per week, favouring smaller and faster 'top-up' shops. As a result, consumers now have shorter meal planning horizons, with many decisions made on the shopping trip in the hours before the meal.

Despite time pressures, consumers continue to express interest in cooking and experimenting with food. More than 50 per cent of Mealpulse™ panellists love to cook while the interest in new food ideas and recipes is applicable across all household segments, but strongest among families.

Consumers are welcoming of products that are close to the consumption form, either through minimal processing such as washing, peeling and cutting or ready prepared meals. These products save preparation time, allow for immediate meal preferences and variety, while reducing waste through portion control. This demand is clearly reflected in the 11 per cent growth of Mealpulse™ panellists buying more fresh and chilled

foods than they used to over five years.

These changing attitudes result in far more opportunities than challenges, especially for vegetable growers who are acknowledged as credible producers of food that is the essence of healthy eating.

R&D ■ Drive Train ■ Consumer Alignment

INFO

For more information, please contact AUSVEG on 03 9882 0277 or info@ausveg.com.au.

The Economist Sub-Program is a component of the *Vegetable Industry Communication Program 2015-16*. This project 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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GETTING THE BEST RESULTS FROM CROP PROTECTION PRODUCTS

In many parts of Australia, current weather conditions have restricted the spraying hours for broadacre farmers per day, which means they have to leave the spray solution in the boom for extended periods of time. Syngenta Technical Services Lead Scott Mathew answers some common concerns in this situation.

IS IT ACCEPTABLE TO LEAVE CROP PROTECTION PRODUCTS MIXED IN THE SPRAYER FOR EXTENDED PERIODS OF TIME (I.E. OVERNIGHT)?

The answer in many cases is simply, yes. Many crop protection products when suitably dispersed in the spray tank will be stable for short-term storage in the spray boom. However, when you resume spraying you must ensure that the spray solution is thoroughly agitated.

ARE THERE ANY PARTICULAR THINGS WE SHOULD LOOK OUT FOR?

As always, there are exceptions to this.

When the crop protection product has the active ingredient formulated as a Wettable Granule (WG), it is formulated with a carrier to help disperse the product when you pour it into the tank. Generally, this carrier is clay-based and as a result it can settle out quickly if left without agitation. In a tank with good agitation, it can generally be easily brought back into suspension. However, in the spray lines and the boom itself, the clay settles in low areas, filters and boom ends, making it difficult to get back into suspension. Furthermore, when these deposits dry, they can flake off and cause serious blockages.

If you are going to leave WG products in the tank for extended periods, it would pay to flush the spray boom with clean water before the spray solution can settle out too much. Also, if possible, leave the agitation system on in the tank.

If the crop protection product you have been applying is chemically unstable, it is not advised to leave it in the sprayer. Some pesticides can degrade in the tank – for instance, iprodione undergoes rapid alkaline hydrolysis at pH>8 (pH7 is optimal), usually due to alkaline (high pH) hydrolysis. This is very specific to individual crop protection products, so ask your agronomist/consultant or the chemical company. Generally though, insecticides (particularly organophosphates and carbamates) are more susceptible than other pesticides.

HOW DO I FIND OUT WHAT CHEMICAL FORMULATION I AM USING?

This is presently quite difficult as this information is generally not featured on the chemical container. The best way is to ask your chemical reseller and take some time to learn a few of the formulation terms. This includes EC = Emulsifiable Concentrate (e.g. SCORE) and SC = Suspension Concentrate.

IN WHAT ORDER DO I TANK-MIX PRODUCTS?

The general mixing order of products should be:

1. Water dispersible granules (e.g. PROCLAIM®, SWITCH®).
2. Wettable powders.
3. Flowable or suspension concentrates (e.g. BRAVO® WEATHERSTIK, AMISTAR®).
4. Emulsifiable concentrates (e.g. SCORE®).
5. Water-based or soluble concentrates.
6. Adjuvants (e.g. AGRAL®, oils etc.).

It is important to ensure that each individual component of the tank-mix is fully dissolved and in solution before the next product is added to the tank, otherwise mixing problems may occur.

R&D ■ Drive Train

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 or email [Vegetables Australia: info@ausveg.com.au](mailto:Vegetables_Australia: 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



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Photography by Jessica Liebregts.

EMBRACING ON-FARM AND BUSINESS GROWTH



NAME: Mitchell East
AGE: 24
LOCATION: Manjimup, Western Australia
WORKS: Willara Gold
GROWS: Broccoli, passionfruit, avocados and fat lambs

HOW DID YOU FIRST BECOME INVOLVED IN THE VEGETABLE INDUSTRY?

I am a third generation vegetable farmer. My family has been farming in the region for over 60 years and I was raised on the farm. As a young boy I was always around what was happening on the farm, driving tractors, picking vegetables and learning invaluable skills. This gave me a practical skillset that has helped me throughout my life.

Although I wasn't always interested in the farm – as I grew older I wanted to experience other things and further my knowledge, so at 18 I left for Perth. After five years of studying and working in the city I decided I wanted to be a part of

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

Over the past two years, I have been growing and managing a passionfruit crop which I am planning to expand this year. I am also looking to take on the broccoli program and hopefully implement some new practices. The rest of the time I take care of day-to-day management of the farm, from general maintenance to managing a crew of backpackers each day. The jobs on the farm change all the time as we have an array of tasks.

Broccoli and sheep are our main contributors but we are venturing into avocados and passionfruit. This is uncharted territory for us as we have always been vegetable growers, so fruit growing is a whole new ball game and has involved a lot of research. I am rapidly learning and taking on new challenges each day; it keeps the job interesting.

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

I love that this industry offers me the opportunity to be creative – I feel that to be an effective farmer, you have to be willing to try new

things and being creative is a great way to do this. The industry is very exciting at the moment with so many new advances in technology and new practices. It's always motivating to see other people working on new ways to benefit the industry.

At times the work can be solitary and more so in the cold winter

months – I find a couple of weeks' respite helps to crank up the enthusiasm for the rest of the year. One of the best parts about the industry is going to see your product that you have taken so much time to perfect, be sold at the market or in a supermarket. At this point you realise that you have done your job well knowing that someone wants to spend their money on a vegetable you supplied.

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

Research into new software for drones and robotics could lead to greater efficiency. This could be used to predict the yield of crops and map out the growth rates, then by comparing new and old data you could see what variables influence each crop, such as types of fertiliser or weather events.

Greater market research into export opportunities could also prove valuable to the industry. Free trade will likely push this forward and hopefully the viability of export to provide competitively priced produce will ensure continual growth for farmers.

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

Export presents excellent potential for growth in the industry and Australian farmers have the opportunity to take advantage of this. Better storage practices will mean fresher produce can be shipped further than before. Businesses becoming more efficient and increasing yields will make export a more appealing option as they become more competitive in a global market. Australia has a reputation for providing great quality fresh food and emerging middle class markets overseas are demanding higher grade and safer produce.

WHERE DO YOU SEE YOURSELF IN FIVE YEARS?

This is really only my third year back full-time farming, and already so much has changed in quite a short time. I hope to be expanding my knowledge and hopefully take on some passionate young

people to work with. As markets change I'd like to explore some new products and hopefully see some of the niche vegetables become more staple products for consumers. All I hope is that it continues to be challenging and exciting!

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

Learning farming skills from a young age would be a start to getting more people in the industry. For instance, having partnerships with schools and universities that show students how to put the skills they learn into practice.

It would be good to see a farm placement program that gives interested young people the ability to work on properties and gain knowledge that can't always be replicated in a classroom. This would give exposure to jobs and experience that otherwise wouldn't be available due to a lack of on-the-job training resources for adults.

DO YOU HAVE ANYTHING ELSE TO ADD THAT MAY BE OF INTEREST TO READERS, AND THE WIDER VEGETABLE INDUSTRY?

This year, I attended Hort Connections for the first time. This conference brings together the largest number of growers, supply chain members, industry service providers and government stakeholders. The event goes for three days and includes a massive trade show and an endless array of talks by industry leaders and passionate people.

It was one of the most exciting events I have been to, and I got to meet so many like-minded people. It was great for networking and getting an insight into what others in the industry are achieving. I made some great contacts and learnt a huge amount in just a couple of days. I met amazing people in the industry and got to ask them questions that I otherwise wouldn't get the opportunity to ask. It was a very rewarding experience and I look forward to attending again – I would highly recommend it to anyone who wishes to attend.

You realise that you have done your job well knowing that someone wants to spend money on a vegetable you supplied.

something that I could be passionate about; a future that was both physical and rewarding – naturally, farming was an obvious fit. I already had the skills to get back into the farm lifestyle so I gradually went back to it working alongside my sister and my parents.



VORTEX

INSECT CONTROL SYSTEMS



HORT360 CUTS THROUGH COMPLEXITY OF FAIR WORK COMPLIANCE

The Fair Farms Initiative aims to foster good employment practices in the Australian horticulture industry. Growcom’s Hort360 program, which helps growers gain a holistic insight into their farm business operations, provides a key tool within the Initiative. Growcom Workplace Relations Advisor Annabel Hutch outlines how the workplace relations module of the program can help growers understand the legal requirements and industry standards they must adhere to.

Employment matters and industrial relations laws are highly complex, making it challenging for farm business owners to ensure their employment systems and practices comply with all legal requirements.

“The majority of growers strive to do the right thing – but, in the busyness of farm life, it is easy to let record keeping slip or overlook an important step in an induction process,” Growcom Workplace Relations Advisor Annabel Hutch said.

“Workplaces that cannot demonstrate compliance with employment laws risk on-the-spot fines or enforcement notices from a fair work inspector. If a grower has underpaid their workers, they will need to cover back-pay and possibly prosecution and high penalties.”

UNDERSTANDING BEST PRACTICE

To help farm business owners navigate their way through their legal requirements, Growcom has developed a workplace relations module within its Hort360 program. Hort360 is a best management practice program for horticulture that can help growers gain a 360 degree view of their farm business operations.

“The workplace relations module steps growers through all aspects of their legal requirements and industry standards,” Ms Hutch explained.

“The process involves me sitting with a grower to review the practices and systems currently in place in the business against all

of the matters required by law. We talk through the fine detail of each topic area if necessary so that the grower is confident they understand it completely – including the records they need to keep and the policies and procedures they need to have in place.

“At the end of the process, the business will have a comprehensive risk assessment and action plan outlining matters that need to be addressed to achieve full compliance with Australian Fair Work laws.”

The module covers matters such as:

- Does the business keep a copy of all the industrial instruments (such as Awards) relevant to the workplace, and ensure these are accessible and available to employees?
- Does the employer understand their “accessorial liability” when using labour hire companies to provide workers?
- Do employees receive a written contract of employment that sets out their wages and conditions of employment?
- Does the employer understand the steps they are required to take to fairly dismiss an employee under the Fair Work Act?

Through the Fair Farms Initiative, at least 120 growers across Australia will be fully subsidised to work with Ms Hutch to complete Growcom’s Hort360 workplace relations module.

FAIR FARMS INITIATIVE UPDATE

Fair Farms is a national project that aims to ensure that workers are treated fairly while they are employed on horticulture farms and pack houses. Funded by the Fair Work

Ombudsman, the initiative supports growers with the tools and knowledge to implement good employment practices, and demonstrate this to customers and the wider community.

“Businesses that complete the Hort360 workplace relations module and implement its recommended actions will be well placed to proceed to audit for the new Fair Employment certification that is being developed by Freshcare as part of the Fair Farms Initiative,” Ms Hutch said.

GETTING INVOLVED

Another way for growers to get up-to-speed on their legal requirements is to attend a Fair Farms seminar. In August, around 30 growers participated in seminars delivered in northern Australia by horticulture industrial relations specialist Donna Mogg. Seminars will be offered in all states over the four years of the project, and the next round is planned for Western Australia early in 2018.

Grower feedback from the seminars in Katherine, Darwin and Kununurra was positive, with participants reporting that they were very informative and a useful way to review whether their current business practices were up-to-date.

R&D ■ Drive Train

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



An award winning Australian Insect trap that works!

Vortex Insect trap has proven its value to assist growers to boost production and slash control costs.

The trap allows growers to make informed decisions on when to spray, based on real-time insect pressure. This trap results in spray cost savings, improving quality and reduced losses. The trap is an ideal tool for the production of Organic and semi organic crops, it is an ideal tool to be used in your Integrated Pest Management Strategy.

If it flies at night and is attracted to light we can catch it.

The trials conducted jointly with CSIRO indicates that the Vortex Insect trap has little to no impact to night flying Beneficial insects other than environmental influence. The Trap covers 5 hectares in multiple trap situations.

For more information on our research with Agrisearch, Horticulture Innovation Australia, DPI and others please visit our website: www.vortexics.com.au or phone 0417 797 182.

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The impact of a new mode of action product, Nimitz, against nematodes (left) compared with another standard treatment (right). Image courtesy of ADAMA.

NEW WEAPON IN THE WAR AGAINST NEMATODES

Nematodes are reported to cause yield losses of over \$100 billion annually, making them one of the world’s most destructive pests. Assisting in the battle against nematodes is a new mode of action in the form of a nematicide that can be used on a range of vegetable crops.

Nematodes are among the most destructive and problematic pests for growers worldwide, causing yield losses of more than \$125 billion annually. There are plenty of them – in fact, more than 28,000 known species can be numbered in their millions every square metre.

These hidden killers severely impact crop development and yield, and expose crops to secondary pests such as soil-borne diseases. In many situations, growers may not be aware of the extensive damage caused by nematodes.

To combat this, a unique mode of action providing rapid activity on nematodes, and consequently improved crop production and returns, is proving popular with Queensland cucurbit and fruiting vegetable growers.

Nimitz, from ADAMA, can be used to control root-knot nematode and/or root lesion nematode in capsicum, chilli, eggplant, tomato, cucumber, honeydew melon, pumpkin, rockmelon, squash, okra, watermelon and zucchini crops, while a recent permit has also allowed its use in sweetpotato crops.

In addition to Queensland, Nimitz – which contains the active ingredient fluensulfone – is expected to be registered for use across Australia next year, as well as more crops.

A DIFFERENT APPROACH

ADAMA Senior Product Manager Dror Dagan said the new mode of action has made the product “a true nematicide” compared with other standard nematode treatments.

“Other standards inhibit, rather than kill, nematodes. With other treatments also disappearing from the market, this has become a great option for growers,” Mr Dagan said.

“Within one hour of contact, nematodes cease feeding and quickly become paralysed. Within 24 to 48 hours, pest mortality occurs, rather than the temporary ‘freezing’ of nematode activity, as occurs with other treatments.”

He added that trials have shown that Nimitz demonstrated equivalent or better nematode control than standard treatments and in many cases, resulted in an increase in marketable yield.

USING THE PRODUCT

Mr Dagan said trials had also highlighted the product’s handling benefits.

“It is safe and easy to apply using existing application methods, low rates and with minimal impact on non-target and beneficial species and the environment. It eliminates many of the stringent use requirements for existing treatments, including fumigant management plans, extended re-entry intervals (REI) and restrictive buffer zones,” Mr Dagan explained.

“Nimitz simplifies nematode management by improving user safety and reducing complex handling practices. It is used at low rates, has a short REI and requires minimal personal protective equipment.”

Application options include simple injection via drip irrigation, and broadcast or banded spray application with mechanical incorporation.

“For most growers, this means operations can be carried out without the need for additional equipment or input from an external contractor,” Mr Dagan said.

ADAMA also recommends rotating the product with treatments featuring a different mode of action.

“Nimitz should be used as part of an Integrated Pest Management (IPM) program to control nematodes. IPM programs using cultural practices, farm hygiene, planting of resistant varieties to reduce infestations caused by nematodes, monitoring or other detection methods, proper pest identification and rotation of products with different modes of action will help prevent economic pest damage.”

INFO

For more information, growers, advisers and agronomists can contact their local ADAMA representative or visit adama.com.



STRATEGIC INVESTMENT ADVISORY PANEL UPDATE

Hort Innovation has Strategic Investment Advisory Panels (SIAPs) to provide transparent and robust advice to help ensure levy investment decisions are balanced and prioritised by the current needs of the vegetable industry. Hort Innovation has SIAPs for three of the vegetable industry’s investment pillars: Farm Productivity, Resource Use and Management; Market and Value Chain Development; and Consumer Alignment.

FARM PRODUCTIVITY, RESOURCE USE & MANAGEMENT

NAME	ORGANISATION	STATE
Bill Bulmer	Bulmer Farms	VIC
Andrew Craigie	Craigie Brothers	TAS
Ed Fagan	Mulyan Farms	NSW
Rob Hinrichsen	Kalfresh	QLD
Mike Keller	University of Adelaide	SA
Rachael Lancaster	Environmental and Agricultural Testing Services	WA
Jessica Lye	AUSVEG	VIC
Jeff McSpedden	JW & FJ McSpedden	NSW
Michael Radcliff	Rhebanvale	TAS
Sharron Windolf	Windolf Farms	QLD
Calum Wilson	Tasmanian Institute of Agriculture	TAS

CONSUMER ALIGNMENT

NAME	ORGANISATION	STATE
Belinda Adams	Coastal Hydroponics	QLD
Leisa Carniel	Mulgowie Farming	QLD
Trent De Paoli	AustChilli	QLD
Russell McCrystal	McCrystal Consultancy	QLD
Jason McNeill	Premium Fresh	TAS
Greg Owens	NT Farmers	NT
Steven Roberts	Rijk Zwaan	VIC
Chris Schreurs	Schreurs & Sons	VIC
Scott Samwell	Samwell and Sons	SA
Jarrood Strauch	AUSVEG	VIC
Brock Sutton	Sutton Farms	QLD
Matt Zagami	Avagrow Farms	VIC

MARKET & VALUE CHAIN DEVELOPMENT

NAME	ORGANISATION	STATE
Michael Coote	AUSVEG	VIC
Maureen Dobra	Loose Leaf Lettuce Company	WA
Kelvin Free	Duralgai Horticultural	VIC
Emma Germano	Germano Produce	VIC
Nick Macleod	Queensland Department of Agriculture and Fisheries	QLD
Michael Nixon	Riverlodge Assets	WA
Jim Trandos	Trandos Farms	WA
Kees Versteeg	Qualipac	QLD
Michael Vorrasi	DSA Produce	SA

R&D Drive Train

INFO

Each industry SIAP is made up of panellists from that industry – most of whom are levy-paying growers – with appointments made based on skills criteria and considering geographic and sectoral diversity. Each SIAP also has a chair, as listed on the industry grower pages of Hort Innovation’s website.

For more information, please visit horticulture.com.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



- Micro chip dripper
- Extensive flow rates
- Various emitter spacings
- Matches current Irrigation set ups
- Not sensitive to blockage
- Competitive prices



A still from the controlled traffic farming video. Image courtesy of RMCG.

A VIDEO SPECIAL: SOIL WEALTH AND ICP DELIVER REAL IMPACT FOR THE VEGETABLE INDUSTRY

The Soil Wealth and Integrated Crop Protection (ICP) projects work with growers nationally to put soil and plant health research into practice. This edition provides practical guidance on controlled traffic farming and managing pesticide resistance, and takes a look at the achievements of the projects over the last three years.

SOIL WEALTH AND ICP ACHIEVEMENTS: PHASE 1 VIDEO

The projects *Soil condition management – Extension and capacity building* (VG13076, Soil Wealth) and *Extension of Integrated Crop Protection information* (VG13078, ICP) are strategic levy investments under the Hort Innovation Vegetable Fund. The projects provide R&D extension services, products and communication on improved soil management and plant health to the Australian vegetable industry.

Over the past three years, RM Consulting Group (RMCG) and Applied Horticultural Research (AHR) have delivered the projects for Hort Innovation, using the vegetable research and development levy and contributions from the Australian Government. Phase 1 of the projects has now been completed. So, what has been achieved?

The Phase 1 projects engaged directly with 1,934 growers representing 30,000 hectares, or 25 per cent of the total vegetable farming land in Australia. Of these growers, 80 per cent say they can now make better informed decisions as a direct result of these projects. Of the growers engaged, 47 per cent have changed practices and a further 35 per cent are considering change.

The sheer volume of outputs produced by these projects is also impressive. Fifteen on-farm demonstration sites have been established with results communicated to growers and advisers via 63 field days, farm walks and workshops. There have been 71 fact sheets produced, 54 case studies published, 29 videos produced and 14 webinars run.

A total of 266 articles have been published in industry magazines and the general media, while a monthly e-Bulletin informs growers and advisers of events and new outputs. The e-Bulletin (1,477 readers) Twitter (1,514 followers) and Facebook (1,725 combined likes) are used to promote events and outputs and drive traffic to the Soil Wealth/ICP website.

To find out more about engagement, training and events, demonstration sites, communication products, outcomes and next steps, please visit the Soil Wealth/ICP website.

CONTROLLED TRAFFIC IN VEGETABLE PRODUCTION

A new video focuses on Rob Hinrichsen of Kalfresh in Queensland and his experiences in using controlled traffic

farming in commercial vegetable production systems.

This video captures Rob's experiences with the technology achieving 'growing zones' and 'driving zones'; the benefits of reduced tillage from 11-12 passes to 2-3 passes; the costs of transitioning the cultivation system; and how the business piloted the technology before making the big change.

MANAGING PESTICIDE RESISTANCE IN VEGETABLE CROPS

Pesticide resistance is an ongoing concern for the vegetable industry.

A webinar recording is now available on this topic, where expert practitioners Dr Paul Horne and Jessica Page from IPM Technologies and RMCG Senior Consultant Carl Larsen discuss how resistance arises and the ways to develop a resistance management strategy, as well as the control options available, including biological, cultural and chemical.

The recording is also accompanied by the presentation slides and a useful fact sheet (download at soilwealth.com.au/resources/videos-and-apps/managing-pesticide-resistance-in-vegetable-crops-with-dr-paul-horne-webinar-recording).

All the above resources can be accessed via the Soil Wealth/ICP website under the 'Resources' tab at soilwealth.com.au/resources/videos-and-apps.

R&D ■ Drive Train ■ Farm Productivity, Resource Use & Management

INFO

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

More information and resources are also available from the Soil Wealth/ICP website at soilwealth.com.au or integratedcropprotection.com.au.

These 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



INDUSTRY IN THE MEDIA



EXPORT INITIATIVES

Following the Taste Australia campaign launch in August, AUSVEG National Manager – Export Development Michael Coote appeared on radio welcoming Hort Innovation's trade push for Australian fresh produce, including Australian vegetables. He said the campaign will help to solidify Australian produce's premium position in key export markets.

AUSVEG Director Michael Nixon also appeared on radio discussing the Gascoyne Food Festival and the visit to the Festival by a group of buyers from markets in Hong Kong, Thailand and Japan. Mr Nixon thanked Hort Innovation and AUSVEG for their assistance in creating opportunities for Gascoyne producers to develop relationships that could increase trade into export markets.

STRONGER COMPETITION LAW

AUSVEG National Manager – Public Affairs Jordan Brooke-Barnett recently appeared on radio welcoming legislation and amendments to strengthen Australia's competition law, including changes that will provide greater ability for the Australian Competition and Consumer Commission to take appropriate steps when a company's actions have had the effect of causing a substantial reduction in competition.

Mr Brooke-Barnett said it is vital that Australia has open and transparent markets which are conducive to encouraging new competition, and the introduction of an 'effects test' will provide the ACCC with a greater ability to take action against instances of misuse of market power across all industries.

FOOD SAFETY COMPLIANCE

Calls for growers to comply with the new Harmonised Australian Retailer Produce Scheme (HARPS) before the deadline of 1 January 2018 featured in broadcast media in August and September. AUSVEG Environment Coordinator Andrew Shaw said that HARPS will benefit the entire Australian fresh produce industry as it will reduce the time and cost burden of multiple food safety audits for different retailers.

R&D ■ Drive Train

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



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THE VEGETABLE R&D LEVY AT WORK



AUSVEG Project Coordinator
Patrick Arratia

IDENTIFYING AGRICHEMICAL NEEDS AND PRIORITIES IN THE VEGETABLE INDUSTRY

AUSVEG has commenced a new strategic levy investment project under the Hort Innovation Vegetable Fund, which aims to capture grower needs in the agrichemical space. These will be accurately recorded and will inform industry actions at the annual AgChem Collaborative Forum as well as assist the existing Strategic Agrichemical Review Process (SARP).

Growers of some horticultural crops suffer from a lack of legal access to crop protection products (pesticides). The problem may be that while a relatively small crop area is valuable in an agricultural sense, it is not of sufficient size for agchem companies to justify the expense of registering a product to use on that crop. Alternately, the disease, pest, or weed problem may be regional or spasmodic, making agchem companies unwilling to bear the initial high cost of registering suitable pesticides.

Growers may at times be in a situation where they face severe losses from diseases, pests and weeds if they do nothing to protect their crops, or face penalties if they use a product that is not registered or available via a permit. The vegetable industry is aware of the possible consequences of the use of unregistered or non-permitted pesticides.

Environmental concerns, consumer demands and public opinion are also significant influences in the marketplace related to pest management practices. Industry and Integrated Pest Management (IPM) practitioners must strive to implement best management practices and tools to incorporate a pest management regime where strategies work in harmony with each other to achieve the desired effects while posing the least risks.

Pesticides have always been an important tool in the production of vegetables. They control the various diseases, weeds and insects that affect the crop and can cause severe economic loss in modern, high intensity growing operations.

To establish direct grower interaction and ensure that the agrichemical needs of the vegetable sector are accurately recorded and understood, AUSVEG has commenced coordination of the project *Vegetable Agrichemical Pest Management Needs and Priorities* (VG16060), a strategic levy investment under the Hort Innovation Vegetable Fund.

The project's objective is to coordinate vegetable industry agrichemical pest needs by identifying and prioritising potential gaps through the implementation of an effective prioritisation process for the industry.

CAPTURING GROWER INPUT

Coordinating this project is Patrick Arratia, who joined AUSVEG in July 2017. Patrick previously worked at Bayer in South Australia as a breeding agronomist managing the canola contra season program. He has experience in agronomy, qualifications in agricultural engineering and a passion for the agricultural industry.

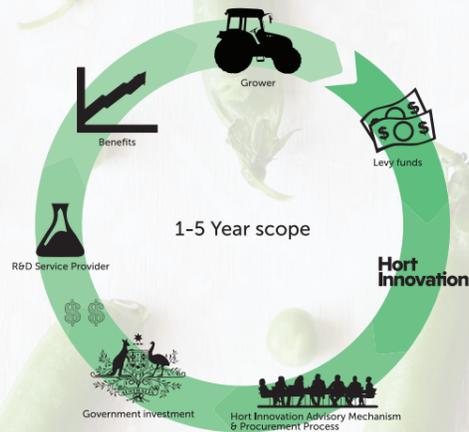
A component of Patrick's role is to capture direct input from growers relating to individual crop commodities. This will be done on a regional basis in conjunction with the existing Strategic Agrichemical Review Process (SARP) and regional Industry Development Officers (IDOs).

Priority agrichemical gaps identified in this three-year project will inform industry actions at the annual AgChem Collaborative Forum, assist in updating industry SARPs and identify potential solutions to address these gaps.

The successful rollout of this project will result in an effective agrichemical prioritisation process for the vegetable industry through a high level of industry engagement and input, which will direct R&D funding for crop protection purposes.

Keep an eye out for Patrick as he visits key vegetable growing regions and stay tuned for upcoming project consultation workshops.

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.

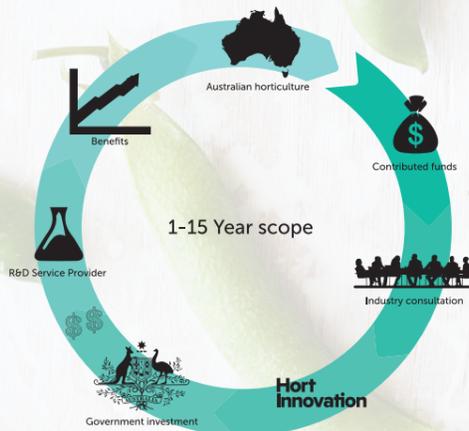
All investments through the Vegetable Fund are made with advice from the industry's Strategic Investment Advisory Panels (SIAPs) – skills-based panels made of panellists from across the vegetable industry, the majority of whom are levy-paying growers. Strategic levy investments have a one- to five-year 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.

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.

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. 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

R&D ■ Farm Productivity, Resource Use & Management

INFO

For more information, please contact Patrick Arratia on 03 9882 0277 or at patrick.arratia@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: VG16060



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MINOR USE PERMITS

PERMIT NUMBER	CROP	PESTICIDE GROUP	ACTIVE	PEST/ PLANT DISEASE/ TARGET WEED	DATE ISSUED	EXPIRY DATE	STATES
PER82456	Snow peas, sugar snap peas, field grown capsicums, chillies and paprika	Fungicide	Mancozeb, Metalaxyl-M	Downy mildew	27-Jun-17	30-Sep-20	All states except Vic
PER82904	Sugar snap peas and snow peas	Fungicide	Fenhexamid	Grey mould, chocolate spot	11-Jul-17	30-Jun-22	All states except Vic
PER82136	Brassica leafy vegetables	Fungicide	Difenoconazole	Ring spot	13-Jul-17	30-Sep-20	All states except Vic
PER82460 (REPLACING PER13304, PER14725 AND PER13899)	Cucurbits (pumpkin, cucumber, zucchini, squash, chayote [except for root production]), Asian cucurbits (balsam pear, bottle gourd, smooth loofah, angled loofah, snake gourd, wax gourd, pointed gourd, ivy gourd), snow peas, sugar snap peas, capsicums and tomatoes	Miticide	Etoxazole	Two-spotted mite, tomato red spider mite	26-Jul-17	31-Jul-22	All states except Vic
PER82895	This permit covers a range of fungal diseases in leafy, bulb, root and tuber, fruiting and legume vegetables and herbs	Fungicide	Chlorothalonil	For full details, please search the APVMA website	04-Aug-17	31-Aug-20	All states except Vic (WA only for garden peas)
PER81271 VERSION 2	Leeks and garlic	Herbicide	Simazine, cyanazine, ioxynil, propachlor, ethofumesate, oxyfluorfen, pendimethalin	Grass and broadleaf weeds, hogweed (wireweed)	10-Nov-15	31-Oct-21	All states except Vic
PER82461 (REPLACING PER14456 AND PER13091)	Beetroot, beetroot leaves, chicory, endive, radish, silverbeet, spinach and carrots	Fungicide	Tebuconazole	Sclerotinia rot (endive, beetroot, beetroot leaves, chicory, radish, silverbeet and spinach), suppression of powdery mildew (carrots)	16-Aug-17	31-Aug-20	For full details, please search the APVMA website
PER7909 VERSION 2	Cucumber	Fungicide	Pyrimethanil	Botrytis rot	5-Apr-12	30-Sep-22	All states except Vic
PER83765	Spinach and silverbeet	Fungicide	Fludioxonil and Metalaxyl-M	Damping off	21-Aug-17	30-Sep-20	All states except Vic
PER12565 VERSION 2	Capsicums and lettuce – protected only	Fungicide	Pyrimethanil	Botrytis grey mould	05-Apr-12	30-Sep-22	All states except Vic
PER14494 VERSION 2	Silverbeet, spinach, chicory, endive (field and protected) and celery (field only)	Fungicide	Trifloxystrobin	Powdery mildew (silverbeet, spinach, chicory and endive – field and protected), cercospora leaf spot and septoria leaf spot (celery – field only)	01-Oct-14	31-Aug-22	All states except Vic
PER84426 (PREVIOUSLY PER12567)	Green beans, carrots, spinach and silverbeet	Fungicide	Iprodione	Sclerotinia (green beans), suppression of black rot (carrots), sclerotinia and grey mould (spinach and silverbeet)	18-Nov-14	31-Mar-19	All states

PER13698 VERSION 3	Lettuce (leafy and hydroponic), fennel and bulb (allium) vegetables – bulb onion, garlic, leek, shallot, spring onion and tree onion, coriander and parsley	Fungicide	Phosphorous acid	Downy mildew (lettuce – leafy and hydroponic), suppression of downy mildew (fennel and bulb [allium] vegetables – bulb onion, garlic, leek, shallot, spring onion and tree onion), root rot (coriander and parsley)	01-Oct-12	30-Sep-22	All states except Vic
PER12846 VERSION 3	Snow peas and sugar snap peas	Miticide/ Insecticide	Abamectin	Two-spotted mite	31-May-13	30-Sep-20	All states except Vic
PER82745	Silverbeet, spinach, chicory, endive, parsley and coriander (field crops only)	Fungicide	Difenoconazole	Powdery mildew (silverbeet, spinach, chicory and endive), leaf blight (parsley and coriander)	23-Aug-17	31-Aug-20	All states except Vic
PER84740 (REPLACING PER14282 V2)	Various root vegetables (taro, rakkyo, daikon, burdock, yam, yam bean, lotus root, water chestnuts, galangal and turmeric)	Herbicide	Fluazifop-P	Grass weeds, including couch grass and Guinea grass	22-Nov-13	30-Apr-19	All states except Vic
PER84878	Capsicum	Fungicide	Cyprodinil and fludioxonil	Botrytis rot and sclerotinia rot	28-May-12	30-Nov-22	All states except Vic

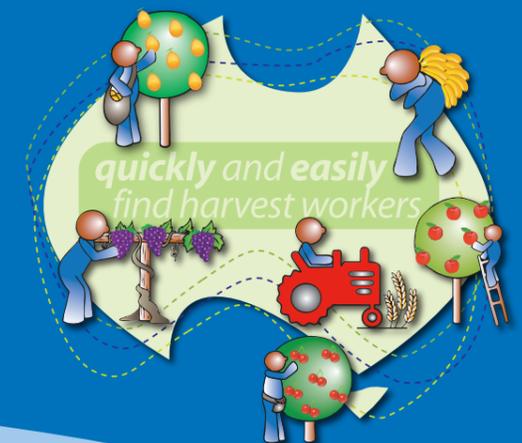
Hort Innovation is the permit holder for all permits listed. All efforts have been made to provide the most current, complete and accurate information on these permits, however we recommend that you confirm the details of these permits at: apvma.gov.au/permits/search.php. This communication has been funded by Hort Innovation using the vegetable research and development levy and contributions from the Australian Government. Project Number: VG15027.



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Blue Planet Consulting Managing Director Henry Gordon-Smith at the 2017 Global Innovations in Horticulture Seminar.

WHAT DOES VERTICAL FARMING MEAN FOR THE VEG INDUSTRY?

Henry Gordon-Smith is a sustainability strategist focused on urban agriculture, water issues and emerging technologies. As managing director of a boutique global urban agriculture consultancy, Mr Gordon-Smith presented at the Global Innovations in Horticulture Seminar held in conjunction with Hort Connections 2017. He spoke to *Vegetables Australia* about the role that vertical farming can play in the vegetable industry.

There are many challenges that modern vegetable growers face, including the continuation of the urban sprawl and extreme weather elements. These topics and more were addressed by US presenter Henry Gordon-Smith at the 2017 Global Innovations in Horticulture Seminar through the concept of vertical farming.

Six years ago, Mr Gordon-Smith established a blog, *agriteculture.com*, which focused on urban and vertical farming news, business and design. He is now a board member of the Association for Vertical Farming (AVF) and Managing Director of Blue Planet Consulting, a firm which offers a comprehensive insight into urban agriculture project development, offers farm design services and recruits managers for these projects.

At the Seminar, Mr Gordon-Smith discussed the benefits of vertical farming, including a range of real-world case studies on the implementation of vertical farms. He spoke about finding a solution to global farming challenges, and stressed the need to think about the next generation of farmers, and ways we can keep them excited about the industry.

The project *2017 Global Innovations in Horticulture Seminar* (VG15032) is a strategic levy investment under the Hort Innovation Vegetable Fund.

GOING VERTICAL

Mr Gordon-Smith spoke to *Vegetables Australia* following his presentation, explaining what vertical farming is and why it is important for the vegetable industry to be aware of the practice.

"Vertical farming is controlled, three-dimensional environment agriculture. It involves stacking levels of hydroponic cultivation, and then powering them with artificial (LED) lights," he said.

"The way that it affects vegetable farms is that vertical farms mostly grow leafy greens, and they can grow them faster; they can grow them using less water; and they can grow them closer to the consumer.

"If you're a vegetable grower, you need to know about vertical farming because it has the potential to disrupt your industry as it can sell pesticide-free, local, fresh product to your customers."

ASSISTING INDUSTRY

Blue Planet Consulting focuses on the systems in vertical farms, and there are a number of engineers and growers on Mr Gordon-Smith's team that lead the design of these systems.

"The systems in vertical farms are expensive – you've got climate controls, lighting, irrigation systems and the automation involved in it. Thus, there is a lot of room for error with each new vertical farm," he said.

"We're not getting any money for selling you a technology; we just understand how to combine the best technologies out there for your context and your operation. We are technology agnostic."

Blue Planet Consulting also offers a recruiting service, due to a deficit of growers that can manage these farms.

"It's a big problem in the United States, especially with the legalisation of cannabis," Mr Gordon-Smith explained.

"Growers can get paid double or triple the amount when they grow cannabis compared to growing vegetables. So, how do you find growers who are excited about growing food and not drugs? That's a very difficult challenge, and we find the motivated individuals that want to work in this industry."

ADDRESSING ISSUES

As Australia can experience years of crippling drought and floods, Mr Gordon-Smith said that growers can benefit from adopting vertical farming practices to combat these issues.

"While Australia has a lot of space, there are issues with water. Vertical farming allows you to grow those products that have a high amount of water like leafy greens, using less water," he said.

"Furthermore, Australia has shown a lot of leadership in horticulture technology so there's an opportunity – as this is an emerging technology – for Australia to take a leading role in this and export a lot of that knowledge, and actually make some money out of that trade."

R&D

- Consumer Alignment
- Drive Train
- Market & Value Chain Development
- Farm Productivity, Resource Use & Management

INFO

For more information, please visit agriteculture.com.

Presentations at the 2017 Global Innovations in Horticulture Seminar are available to watch at 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



FOCUS ON POLLINATION: BEE INVOLVED FOR A SUSTAINABLE FUTURE

As part of its commitment to the sustainability of Australian agriculture, which balances social, environmental and economic impacts, Bayer is lending its support and international resources to a partnership project investigating healthy bee populations, as well as supporting the development of biosecurity education and awareness materials for beekeepers.

Pollination services present a significant opportunity to boost horticultural production, but are also threatened by potential foreign pest incursions, which would severely impact yields.

Addressing both sides of the equation, Bayer has become involved in a pollination initiative under Hort Innovation, and separately, supported a Bee Biosecurity education project led by Plant Health Australia.

BRINGING INDUSTRY TOGETHER

The *Healthy Bee Populations for Sustainable Pollination in Horticulture* (PH15001) is a strategic partnership initiative under the Hort Frontiers Pollination Fund. This fund has been established by Hort Innovation to commission projects that bring together global expertise and maximise the industry opportunities that are presented by better pollination.

Co-ordinated by Western Sydney University, the project involves a number of industry partners including Bayer, growers and researchers from Australia and India. It has five objectives, which include identifying key pollinators; understanding the floral resources that bees and other insect pollinators need; studying the impact of climate on plant/pollinator interactions; characterising key bee and pollinator diseases; and understanding farm management that can sustain populations of these pollinators.

"Bayer's role is to bring experience from our global experts and overseas programs including the 'Feed-a-Bee' program, which has been very successful in the US and New Zealand," Bayer Head of Public and Government Affairs – Australia New Zealand Richard Dickmann explained.

"The Australian program includes a similar focus on the nutrition of the bees and other pollinators."

Project participants are also aiming to develop integrated ways of using crop protection options that don't harm bees.

"Crops need both pollination and protection: we have to find smart ways to integrate these systems together," Mr Dickmann said.

"We are helping to locate a number of trial locations in South Australia and Victoria, and providing funding for the program."

BEE BIOSECURITY

In addition to the Hort Frontiers project, Bayer has contributed funding to the BeeAware video project, led by Plant Health Australia involving several government and industry players (see info box).

This project developed a series of videos which focus on the significant threat of the arrival of varroa mite in Australia. If varroa mite arrives in the country, it will seriously impact both farmed and feral bees, which currently provide free pollination services.

The series of 12 bee biosecurity videos have been released by Plant Health Australia on the website beeaware.org.au.

"The purpose of these videos is to ensure that beekeepers are fully informed about the range of issues they are confronted with, as well as the best way of controlling varroa mite if it arrives. At the same time, maintaining healthy hives is critical to supporting pollination and economic returns for growers," Mr Dickmann said.

GROWER BENEFITS

Mr Dickmann explained that the bee pollination initiatives and the knowledge gained through these programs are very important to the entire horticulture industry.

"For vegetable growers, a better understanding of introduced and native pollinators could significantly boost the yield of crops such as melons, cucurbits and tomatoes," he said.

"Vegetable growers also work alongside bee keepers and it's important for us to develop integrated and secure systems that protect bees. Another useful tool in this respect is the 'BeeConnected' App, developed by CropLife Australia, which allows growers and beekeepers to communicate their activities anonymously to each other.

"Working together will minimise incidents so both industries can thrive. Longer term, the licence for vegetable growers to operate, often in intensive and urbanised areas, will be protected."

R&D

Hort Frontiers – Pollination Fund

INFO

For more information, please visit crop.bayer.com.au or westernsydney.edu.au or BeeAware.org.au. Funding and in-kind support for the BeeAware video was provided by the Department of Agriculture and Water Resources, Hort Innovation (Hort Frontiers Pollination Fund), When Bee Foundation, Capilano, Syngenta, the Australian Honey Bee Industry Council, Plant and Food Research New Zealand and Plant Health Australia.

Healthy Bee Populations for Sustainable Pollination in Horticulture is funded by the Hort Frontiers Pollination Fund, part of the Hort Frontiers strategic partnership initiative developed by Hort Innovation, with co-investment from Western Sydney University, Syngenta Asia-Pacific, Bayer CropScience, Greening Australia, CropLife and contributions from the Australian Government.

Project Number: PH15001





ENERGY EFFICIENT COLLABORATION FOR VICTORIAN VEG GROWERS

A grant from Sustainability Victoria will enable AUSVEG VIC and pitt&sherry to build the knowledge and skills capacity of Victorian vegetable growers in terms of energy use. The program allows small- and medium-sized enterprises to identify and implement long-term, cost-effective and beneficial energy efficiency improvements to their operations.

The Victorian Vegetable Growers Energy Efficiency Program is designed to improve the capability and capacity of energy users in Victoria.

After receiving a grant from Sustainability Victoria, AUSVEG VIC and multi-specialist engineers pitt&sherry (recently merged with KMH Environmental) designed a pilot program aimed at small- and medium-sized enterprises.

The two organisations are recruiting 15 vegetable growers from three regions in Victoria to act as live examples. These growing businesses will show what can be done industry-wide to reduce energy wastage, and increase business efficiency and profitability as a result.

GROWER COMMITMENT

This program focuses on growers who are paying a substantial amount (over \$50,000 a year) on their energy bills.

"There are businesses that are really committed to how they can improve their on-site operations, so we'll provide them with on-site energy assessments," pitt&sherry Technical Director – Energy Services Robert Nicholson said.

Part of the audit process will involve installing meters that give live visibility (either on an iPhone or desktop, iPad or mobile device) to where and when the energy is being used.

"The audits give us an understanding of the opportunities to reduce the energy use in those processes or identify ways that the processes can be done more efficiently or energy productively," Mr Nicholson said.

"We're not saying that the growers are inefficient – it's more about making sure that we don't waste the energy that we're using."

ONGOING SUPPORT

There are other small tools which will be developed as a result of this program. An online calculator will be established on the AUSVEG VIC website that farmers and growers can log onto to determine how much energy a particular piece of farming or processing equipment is using so they can make informed decisions on the most energy efficient tools for their business.

The projects undertaken during the Victorian Vegetable Growers Energy Efficiency Program will be written as case studies and

posted on the AUSVEG VIC website to share knowledge gains across the industry. The case studies will also be distributed at field days, seminars and upcoming Hort Connections conferences, with participating growers presenting the findings to their peers.

Mr Nicholson hopes that other governments around the country recognise the need to participate in initiatives such as the Victorian Vegetable Growers Energy Efficiency Program.

"Sustainability Victoria is taking a lead in this space and we'd love to see governments everywhere participating in this. The success of the program should have farmers and growers independently taking up some of these initiatives," he said.

"It has the potential to identify what businesses themselves can do cost effectively to make them stronger, more profitable businesses."

JOINING FORCES

Mr Nicholson said that the merging of KMH Environmental and pitt&sherry has benefited both parties.

"It really brought us into a larger space. We've got more offices across the eastern seaboard and some really deep engineering expertise," he said.

"pitt&sherry is prolific in infrastructure engineering and they have really strong specialities in food and beverage, industrial and moving plant. Now, with KMH's involvement, there is real strength in the energy space. They've always been well-respected in energy, but probably more from a policy perspective than an implementation perspective."

Both organisations had one thing in common: The desire to achieve positive outcomes for their clients.

"We really value the relationships that we form with our clients," Mr Nicholson said.

"It's a great partnership – we look at things with a range of different perspectives. It's not about us trying to sell something to the industry; it's actually about how can we work with the industry to make it a stronger, better place to be."

INFO

For more information, please visit pittsh.com.au or contact AUSVEG VIC Acting State Manager Tom Cohen on 0437 037 613 or info@ausvegvic.com.au.



PREPARING YOUR BUSINESS FOR THE NEW HORTICULTURE CODE OF CONDUCT

On 1 April 2017, the new Horticulture Code of Code came into effect. The Code replaces the old mandatory Horticulture Code established by the *Trade Practices (Horticulture Code of Conduct) Regulations 2006* and is regulated by the Australian Competition and Consumer Commission (ACCC).

If you're an Australian fruit and vegetable grower, the Horticulture Code of Conduct may apply to you and the people you trade with.

If the Code applies to you and you don't have a valid Horticulture Produce Agreement (HPA) in place with each business that buys or sells your produce, you need to enter one as soon as possible in order to comply with the law.

It's in your interests to have a valid HPA in place with each trader you deal with. By not having one, you have less control over important commercial issues such as payment times and rejection of your produce.

Your HPA establishes the conditions of your commercial arrangement with the trader and how you will be treated in the event of a dispute. A valid HPA establishes payment terms, quality standards, rejection rights, termination and renewal.

WHAT DO I NEED TO DO?

The amount of time you have to enter into a valid HPA will depend on your current arrangements with the traders you supply.

If you are currently trading under an agreement that was entered into before 15 December 2006 or you have an HPA that complies with the old Code, you have until 1 April 2018 to enter into a new HPA or amend your existing one so that it meets the requirements of the new Code.

However, if you have a written agreement which was not valid under the old Code, or no written agreement at all, you may be operating illegally and need to enter into an HPA with each trader immediately.

WHAT HAPPENS IF I DON'T HAVE AN HPA?

You aren't complying with the Code if you don't have an HPA with each trader you deal with. If you don't comply with the Code, the Australian Competition and Consumer Commission (ACCC) may issue you with an infringement notice specifying that you pay a

particular penalty amount (as an alternative to court proceedings). Or, a court may order you to pay penalties.

The ACCC can ask growers and traders to provide any documents you are required to make or keep under the Code. This allows the ACCC to check compliance with the Code and take further action if you aren't doing the right thing.

WHAT IS THE HORTICULTURE CODE AND WHAT DOES IT MEAN FOR YOU?

The Code is a mandatory industry code covering the sale of unprocessed horticulture produce, such as fruit, vegetables, edible fungi and nuts. The Code aims to ensure transparency and clarity of trading arrangements in the horticulture industry, and provide a fair and equitable dispute resolution procedure.

The Code first applied to transactions that took place after 15 December 2006. It was updated on 1 April 2017 to offer more protections and increased flexibility in trading arrangements. It now applies to all trading arrangements between a grower and a merchant or agent.

A 'merchant' is a business that buys your produce and then on-sells it to another business in Australia; an 'agent' is someone who sells your produce for you. The Code refers to agents and merchants collectively as 'traders'.

It's in your interests to have a valid Horticulture Produce Agreement in place with each trader you deal with.

The next time you communicate with your agent or merchant, ask whether they know of the changes to the law and if you are both trading legally. If they are unsure, the ACCC has published guidance material online (acc.gov.au/horticulturecode), including example HPAs. Your grower representative body should also be able to assist you to comply with the Code.

INFO

For more information, or to discuss any further questions about the Code and how it applies to a specific business, please contact the ACCC Infocentre on 1300 302 502 or the ACCC Small Business Helpline on 1300 302 021.



L-R: NT Farmers President Simon Smith, NT Farmers Workforce Planning Coordinator Aisla Connolly, NT Farmers CEO Greg Owens and NT Farmers Industry Development Officer Samantha Tocknell.

GREG OWENS: TACKLING BIG ISSUES IN THE TOP END

NT Farmers CEO Greg Owens is a stalwart in the Northern Territory horticulture industry. A former science teacher who progressed into the agriculture sector as a departmental horticulture extension officer, Greg has witnessed many changes in the industry since arriving in Darwin from north Queensland in 1984. He spoke to *Vegetables Australia* about the Top End, the challenges it faces and plans for the future.

After an almost 30-year association with Northern Territory producers, Greg Owens recently accepted the role of Chief Executive Officer at NT Farmers Association. It's a decision that will serve the horticulture industry well in years to come, given Greg's extensive knowledge and clear passion for the Top End.

Greg started full-time at NT Farmers in 2013 as a vegetable engagement officer, coordinating the project *Enhancing best practice in vegetable production and business management in the Northern Territory* (VG12113), a strategic levy investment under the Hort Innovation Vegetable Fund. The project identified the gaps in NT vegetable growers' best practice and developed possible extension programs to help growers improve the sustainability and quality of vegetable production across the north.

BIOSECURITY: AN IMPORTANT COMPONENT

The Top End has faced challenging biosecurity incursions in recent years, including cucumber green mottle mosaic virus (CGMMV), which had a significant impact on the Northern Territory's horticulture industry as well as the wider community in 2015.

"CGMMV was quite devastating as we were the first jurisdiction in Australia to get that virus and we were quite heavily quarantined and tested," Greg said.

"We spent a lot of time with our growers, getting on-farm biosecurity to a point where they could protect themselves from that virus. That was a very big issue."

Greg added that the Northern Territory was moving forward from the incursion, with all farms back in full production.

"It frightened all of us, but it changed the growers' understanding of what can be done in terms of on-farm biosecurity. It highlighted a real risk-based approach where we could identify the vulnerabilities those farms faced when threatened with the virus."

Greg added that the incursion also identified the need to tighten on-farm biosecurity practices such as wearing clean clothes when moving from one farm to another, implementing footbaths, signage and using only the cars that belonged to the specific farm that growers were working on.

TOP PRIORITIES

There are two leading issues that NT Farmers is currently focused on: Water availability and labour, particularly as growers deal with

the ramifications of the backpacker tax debate and a declining number of backpackers moving through the Territory.

"We don't know whether that's just for the Territory or if it's across Australia, but we'll be trying to get our figures for the season and see what's available and where people are at," Greg said.

Another focus of NT Farmers is breaking into the export market.

"We've got significant production in some areas and there are government programs looking towards export out of Darwin.

"As we keep getting told, we're closest to Asia but economically it's cheaper to send produce to Singapore via Sydney. Those are the sorts of things that we need to investigate and find out where we can put together a different supply chain, or a marketing chain, that adds value to the growers."

Greg is also working closely with vegetable growers to implement Integrated Pest Management (IPM) strategies and the results received so far have been positive.

"We're getting success both at a demonstration plot at the local research station and on a couple of our leading growers' farms. We're actually getting better control now and we're starting to see quite a bit of uptake on good IPM systems that are solving some of our longer-term pest problems."

LOOKING AHEAD

In 2018, Darwin will once again host the Northern Australia Food Futures Conference, which aims to promote sustainable development in northern Australia.

"The key message is: Don't come to the Territory, northern Queensland or northern Western Australia and tell us what to do; come up here and talk to us about those models that have actually succeeded," Greg said.

"We'd love to see more investment – we just want it to be successful so that the Northern Territory and the rest of northern Australia can develop some of that potential that's always talked about."

INFO

For more information, please visit ntfarmers.org.au.

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 returning in 2018. A combination of the National Horticulture Convention and PMA Fresh Connections, this premier event of two of horticulture's leading organisations is set to deliver another world-class program and trade show to growers and whole-of-supply-chain companies alike.

Further information: Stay tuned for more information at 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, farm visits within the Northern Territory and traditional plenary sessions accompanied by a social program.

Further information: foodfuturesntfarmers.org.au.

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AROUND THE STATES



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It's almost a year since the Northern Territory contributed to this column and a number of significant changes have occurred in the Top End over that time.

The first major change occurred in August last year when the new NT Government was elected. The new Labor Government sees agribusiness as one of the key contributors to the NT economy and an important component of the 'developing the north' agenda. The current government made strong commitments to the industry during the election campaign and has backed that up with action by providing the funding for three new Industry Development Officers to be based at NT Farmers in Darwin and Katherine, to build farmer capacity and develop NT horticulture and agriculture enterprises and the industry across the regions.

This change in government coincided with the release of the *Economic Profile of Plant Based Industries in the Northern Territory 2015* report that was commissioned by NT Farmers to determine the true state of the industry (you can view the profile here: ntfarmers.org.au/blog/sam-tocknell/nt-farmers-2015-economic-profile).

The profile showed that the Gross Value of Production (GVP) of horticulture and agriculture

in the NT had risen in value from almost \$0 in 1980 to \$244 million in 2015. This is the first true picture of the size of plant industries in the territory since the NT Geological Survey (NTGS) of 2009 and differs markedly from the national statistics normally quoted from ABS farm surveys. The profile showed that of the \$244 million in GVP, almost \$175 million was invested back into the local community for labour, materials and services.

The vegetable industry is estimated as \$41 million of that total and like all of the NT primary industries, the development of the horticulture industry in the Top End has been driven by market opportunities. The low-cost counter-seasonal nature of our vegetable industry ensures it will remain competitive for the short-term, but we will need to investigate new markets and opportunities into the future. The vegetable season has been relatively quiet after the biosecurity incursions of previous years and looks poised to run into September/October before it gets too hot and humid.

In the next column, we will go over some of the exciting work being done by the VegNET NT project at our Integrated Pest Management (IPM) demo block and with two of our leading vegetable growers.



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Queensland growers will benefit from a 10-year funding commitment of \$380 million (\$411.4 million indexed) funded through the National Red Imported Fire Ant (RIFA) Eradication Program to rid Australia of fire ants.

Growcom has commended all governments for their commitment to invest in addressing such a serious biosecurity issue for the state's production horticulture industry. The new program will be overseen by an independent steering committee of representatives from the federal, state and territory governments, designed to give more autonomy and accountability.

Fire ants are an ongoing major issue for Queensland fruit and vegetable growers within the south-east corner. The recent reports of RIFA encroaching upon horticulture production regions such as the Lockyer Valley and the Sunshine Coast have sounded alarm bells within our industry.

With the certainty of funding, it is up to the Queensland Government to eradicate RIFA and deliver upon this collective national investment. Growcom will continue working with our grower members and alongside government to ensure we are all contributing to the

eradication efforts, especially on a biosecurity issue as important as RIFA. Growcom will continue to hold the Queensland Government to account as it delivers upon its commitments to the eradication program.

According to the Queensland Government and the Invasive Species Council (ISC), if left uncontrolled, RIFA has the potential to cost Queensland alone \$45 billion over 30 years, dwarfing the cost of eradication.

The 10-year eradication plan will include:

- Double the amount of eradication activity in infested areas.
- Risk-based eradication through scientific analysis and modelling of infestation spread.
- Quality assurance for correct implementation of eradication methods.
- Clearing infestation in suburbs and operational areas.
- Collaboration with industries and community to encourage reporting of fire ants and to prevent human-assisted movement.

Everyone has a biosecurity responsibility and must play their part. If you see any suspect ants or nests, please take a photograph and submit via Biosecurity Queensland's online report form at daf.qld.gov.au/fireants or phone 13 25 23.



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NSW Farmers Horticulture Committee held its Annual General Meeting and Forum in Sydney on 17 July. The day was a great success, with growers and industry participants attending NSW Parliament House to hear about market access, labour law and the Horticulture Code of Conduct from a wide range of engaging speakers.

The sponsors for the day, Holding Redlich, presented an industrial relations (IR) session which discussed ways growers can protect themselves in backpacker dealings and also how growers can ensure they comply with the Fair Work Act. That evening, guests enjoyed a packed-out industry dinner with guest speaker and Minister for Primary Industries, Regional Water, Trade and Industry the Hon. Niall Blair MLC promoting the benefits of horticulture and the ongoing relationship that government has with NSW Farmers.

The new Horticulture Committee has been busy setting its priorities for the year ahead and continuing the work of the previous committee. A main priority for the committee this year

continues to be the implementation of the *Biosecurity Act*, which came into effect on 1 July 2017.

For many months now, NSW Farmers has been calling for the government to develop and implement a wide-reaching biosecurity communication and education campaign to ensure that the regulations are upheld. Without a strong awareness and education campaign focusing on the duty and the steps a person can take to mitigate their risk, the industry, economy and community will continue to be at risk. Many people in the industry and community may already be following correct biosecurity practices, but by providing correct and appropriate management and practice examples for all, the biosecurity level should only increase.

The Committee will also be pursuing action for abandoned and neglected properties, retention of 'piece rates' in labour agreements, reinstatement of the flying fox netting subsidy scheme, and a discussion into energy and gas prices for the industry.



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AUSVEG SA was pleased to welcome the Federal Government's \$45.6 million contribution to the Northern Adelaide Irrigation Scheme as part of its \$500 million National Water Infrastructure Development Fund.

AUSVEG SA has lobbied over a number of years for state and federal governments to address water supply constraints impeding horticulture development in Australia. We are pleased that the Federal Government has made a contribution on top of the existing state contribution of \$110 million to ensure this exciting project goes ahead.

The Northern Adelaide Plains Irrigation Scheme will allow for production on the Northern Adelaide Plains to more than double to over \$700 million worth of production per annum. It is a landmark project which will ensure South Australian horticulture remains competitive into the future and can grow its contribution to the state economy.

AUSVEG SA thanks the Federal Government for coming to the table to ensure this exciting project goes ahead.

In other news, AUSVEG SA will be launching a series of new education and trade development opportunities for South Australian growers in the coming months. We have a series of workshops planned on the changes to the Horticulture Code of Conduct for growers and will be participating in a number of South Australian Government trade missions. AUSVEG SA welcomes feedback on our upcoming events.

In local politics, AUSVEG SA remains concerned about the South Australian Government's labour hire legislation, which is proposed for debate at the end of September. Industry groups across agriculture remain concerned about the lack of consultation on this key legislation and AUSVEG SA will review the final legislation closely once it is introduced to parliament.

AROUND THE STATES



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In recent months, AUSVEG VIC Acting State Manager Tom Cohen has been visiting growers throughout regional Victoria, while working closely with Robert Nicholson from pitt&sherry (formerly KMH Environmental). Tom and Robert have been discussing the joint Energy Efficiency Capabilities project that they are working on to deliver reduced costs for the Victorian vegetable industry.

AUSVEG VIC was granted the Energy Efficiency Capabilities project through Sustainability Victoria in July, and is looking for 15 small and medium-sized enterprises (SMEs) across Victoria who are interested in lowering their energy costs. AUSVEG VIC and pitt&sherry are working closely to deliver the program, and the results of the assessments will allow for the implementation of ground-breaking technology to the business.

AUSVEG VIC also recently attended an

The Gascoyne Food Council at Carnarvon has so much to be proud of following its recent Long Table Lunch and associated events. It brought together some of Perth's best chefs to showcase amazing local produce, along with high level meetings with the Western Australian Minister for Regional Development; Agriculture and Food, the Hon. Alannah MacTiernan MLC.

AUSVEG also hosted a reverse trade mission where foreign buyers were able to enjoy a uniquely Australian experience at one of Western Australia's best foodie events. Full credit must go to the active Carnarvon grower community who have driven the remarkable success of the event.

The ongoing tomato-potato psyllid incursion continues to wreak its terrible impact on the Western Australian industry. Market access

Tasmanian vegetable growers have just reached the tail end of a very good harvest season. This is great news for our farming community on the back of a rough 2016.

While yields were down a little due to late plantings, growers have been generally happy across the board. Confidence is also up on the back of news of potentially increased tonnages for the major processors.

This will make for interesting times within the state as cropping is already having to compete with livestock for space due to the prices currently being received for both beef and sheep.

The weather has been kind to some areas of the state through winter this year, with good rainfall and storages filling up across the north.

information session at the Werribee CSIRO Food Innovation Centre to hear an update from researchers, growers and industry service providers involved in the project *Creating value from edible vegetable waste* (VG15076), a strategic levy investment under the Hort Innovation Vegetable Fund. The research team has been developing new products from brassicas and carrot crops through new processing and conversion techniques. These include drying, juicing and fermentation of vegetables that can't be sold commercially.

Various broccoli and carrot powders and extruded snacks were also discussed. These are designed to maximise nutritional value, while extending the shelf life of vegetable products.

If you are interested in either of these projects, please contact AUSVEG VIC Acting State Manager Tom Cohen for further information.

restrictions on non-host plants have been particularly painful, not just for growers who have a usual export program to the eastern states, but the excess supply remaining in the Perth market has caused a glut with consequent impacts on prices.

vegetablesWA is about to launch a benchmarking project, having been awarded a Western Australian Government Grower Group Grant. This business practice is routine across many other industries in helping to improve business decision making and profitability.

In other news, the Myalup-Wellington Dam project continues to make progress, with growers obtaining legal advice from vegetablesWA on the terms proposed by the proponent. There is much still to be done, but good steps have been made.

Southern famers, on the other hand, are having to already put into place feeding and irrigation regimes that wouldn't normally come into play until later in the year.

Tasmanian growers are also leading the charge with the take-up of new technologies, including the use of GPS and variable rate irrigation. Much of this is being enhanced by useful field days throughout the state, and projects like the Tasmanian Institute of Agriculture's (TIA) Water for Profit program.

There has also been an increased push surrounding soil health in the sector, with many tools and experts now available. Increased soil health across the board in the sector will also help increase yields.



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