

| January/February - 2017 |

vegetables

australia



| CHRIS PHAM - COVER STORY | CRISIS MANAGEMENT TEAM - REPRESENTING INDUSTRY |
| ANTHONY IVANKOVICH - THE JOURNEY OF THE IVANKOVICH FAMILY |

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EDITORIAL

A new year has begun, and with it comes a new-look edition of *Vegetables Australia*. This publication is jam-packed with informative R&D, and it all begins on page 10 with important details about the Crisis Management Team, facilitated by AUSVEG, which is funded and trained to represent the Australian vegetable industry during a potential crisis.

On page 16, The Front Line provides an update on the successful biosecurity surveillance practices taking place in various countries around the world, including Australia, while page 18 details the 2016 Young Grower Industry Leadership and Development Mission to South America.

Meanwhile, we speak to Johannes Biala at the Queensland University of Technology about the benefits of accounting for nutrients in organic soil amendments (page 24).

Once again, we have included updates on current vegetable levy-funded programs. Turn to page 14 for a National Vegetable Extension Network update, while the latest news from the Soil Wealth and Integrated Crop Protection program and industry education and training initiative, VegPRO, can be found pages 30 and 31 respectively.

The *Vegetable Industry Export Strategy 2020* has been completed and we have provided details of its development and

goal to increase Australia's vegetable exports by 40 per cent within four years (page 32). A breakdown of projects funded by the National Vegetable Levy for 2016-17 can also be found on page 48.

Our Grower profile this issue is Anthony Ivankovich from Western Australia, who reflects on his Croatian farming heritage and how it has impacted his business (page 44), while on page 12 we take you to the Northern Territory to speak with young grower Chris Pham about his passion for farming.

We remain in the Top End for our Women in Horticulture subject, Lina Challita from Food Ladder, who is helping to deliver community development projects to Katherine and the remote areas of the Northern Territory (page 20).

Also in this edition, EnviroVeg member Matt Ryan describes the changes he has witnessed over the years as a vegetable grower and discusses his drive to create a sustainable environment for future generations (page 38).

We hope you enjoy this rebranded edition of *Vegetables Australia*.

Do you have any feedback on the magazine or a great story idea? We would be happy to hear from you! Contact the editorial team on 03 9882 0277 or email info@ausveg.com.au.

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STAINLESS STEEL IRRIGATION CLAMPS BY **TORO**

It is with great pleasure that we welcome James Whiteside as AUSVEG CEO.

James brings a vast level of local and global agribusiness expertise to the industry, having worked for 23 years for Incitec Pivot, most recently as Chief Operating Officer of Incitec Pivot Fertilisers. He was also the Chief Executive Officer of Quantum Fertilisers, a Hong Kong-based international fertiliser trading company, and is currently Chairman of Verdant Minerals Limited and a director for Agribusiness Australia.

I am confident that James will lead AUSVEG into the future and ensure we continue to effectively fulfill our role as the national representative for vegetable and potato growers.

I would like to pay tribute to former Interim CEO Simon Bolles, who has acted with astute diligence and professionalism during his time in the role. Simon will return to the AUSVEG Board as a Skills-Based Director on 1 February 2017, and we are grateful that he will continue to bring his extensive knowledge of business and corporate finance to the table.

Both the AUSVEG Board and staff are looking forward to a productive and successful year for the industry in 2017.

AUSVEG continues to facilitate the Crisis Management Team, which is funded and trained to effectively respond to a crisis of any nature within the vegetable industry. This includes food safety incidences or workforce issues that could damage the reputation of the industry.

This team can provide support and effective collaboration between growers, distributors, retailers and relevant government departments in the event of a potential crisis.

We strongly encourage any grower or industry member who suspects a potential crisis to contact the Crisis Hotline on 1300 855 170 or AUSVEG on 03 9882 0277. More details can be found on page 10.

Finally, the Australian horticulture industry is continuing to strengthen its ties with overseas industries, making it easier to share information and innovations that can help our growers succeed.

AUSVEG is proud to have signed a strategic partnership with Dutch company Rijk Zwaan, one of the world's leading producers of vegetable seed, and we look forward to working with them for the benefit of the Australian vegetable industry.

Meanwhile, Horticulture Innovation Australia recently joined the University of Tasmania and Lincoln University in the signing of a Memorandum of Understanding with the world-leading agricultural institution, the Wageningen University of the Netherlands. The ceremony was attended by Their Majesties King Willem-Alexander and Queen Máxima of the Netherlands, reflecting the important role that horticulture plays in the Australian and Dutch economies and the significant value of this international collaboration.

AUSVEG looks forward to continuing to build on these relationships with the global horticulture industry into the future.



Geoff Moar

Geoff Moar
Chairman
AUSVEG



James Whiteside

James Whiteside
CEO
AUSVEG

I would like to introduce myself as the Chief Executive Officer of AUSVEG in what is an exciting time for the Australian vegetable and potato industry.

I have always worked in the agricultural industry, since graduating from the University of Melbourne with a Bachelor of Agricultural Science. My career has been in the corporate sector, the last 23 years with fertiliser manufacturer and distributor Incitec Pivot Limited. I was Chief Operating Officer of Incitec Pivot Fertilisers until December 2015. I accepted the role of AUSVEG CEO in December 2016, and am really looking forward to working with Australia's innovative and committed vegetable and potato growers to create a successful and profitable future for the industry.

In particular, I am pleased to be stepping into this role prior to Hort Connections 2017, a joint initiative between AUSVEG and PMA Australia New-Zealand Limited (PMA A-NZ), which will be held from 15-17 May at the Adelaide Convention Centre.

A vast array of horticulture industry bodies have joined as co-hosts. This cross-sector collaboration will benefit all delegates, as all sectors of the industry come together to exchange ideas, network and learn from the wide variety of local and international speakers and exhibitors.

This is the premier event for the Australian horticulture industry and I am particularly looking forward to meeting growers and industry members over the three days of this conference and trade show.

As we move into the new year, I am keen to hear about the key issues affecting Australian vegetable and potato growers. I will make every effort to visit as many growers as possible over the coming months, to become more familiar with the industry and the key areas of investment and policy development that need to be addressed to ensure the industry remains a leader on the world stage.

This is particularly important as we put a cap on the long-running debate over the "backpacker tax". Upon reflection, it is clear that we must take on every opportunity to emphasise that Australian growers must be actively involved in policy-making. We at AUSVEG hope that future decisions that affect our industry follow appropriate consultation and, importantly, reflect the results of in-depth modelling of the potential impacts of such a decision.

Finally, I would like to thank Simon Bolles for his role as Interim CEO for the last six months, and for ensuring the organisation and its staff have been well supported and led. I would also like to sincerely thank the AUSVEG Board for their support and confidence in me. I believe we have the right team to lead this organisation, and the vegetable and potato industry more broadly, through a period of growth and prosperity in the years ahead.

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800 grams

Project Harvest Wave 40 revealed that, on average, consumers buy 800 grams of beetroot per occasion.



3 serves

An Australian Dietary Guidelines survey found that adults (19 years and over) had an average of three serves of vegetables and legumes/beans per day, with less than four per cent consuming the recommended daily amount (five to six serves).

103

According to the 2016 World Greenhouse Vegetable Production Statistics report, Australia had 103 listed greenhouse veggie producers – the fourth highest in the world.

75 grams

The National Health and Medical Research Council defines a standard serve of vegetables as approximately 75 grams. Examples of a standard serve include half a cup of cooked green or orange vegetables or half a medium sweetpotato.

185 per cent

There are 83.3 milligrams of vitamin C in one serving of green capsicum, providing 185 per cent of the Recommended Dietary Intake.
Source: gofor2and5.com.au.



25 per cent

Veggycation® states that one serve of eggplant provides a good source of vitamin B6 (25 per cent of the Recommended Dietary Intake or four grams for fibre).



10,883

The number of 'likes' cauliflower had on social media website Facebook, as of January 2017.



11.8 days

Shelf-life expectations for chillies continue to increase and are now at 11.8 days, according to Project Harvest Wave 38.

R&D

Drive Train

INFO

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

Project Number: VG15027



THE NATIONAL VEGETABLE LEVY AT WORK

POOL 1



WHO PAYS THE NATIONAL VEGETABLE LEVY?

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

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

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

HOW IS LEVY MONEY INVESTED?

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

POOL 2



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

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

They are:

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

HOW CAN GROWERS GET INVOLVED?

Vegetable growers play a fundamental role in advising on the allocation of both levy and co-investment funds, and will be engaged in extensive consultation with Hort Innovation in regional grower meetings, industry-specific consultation programs and individual grower and grower group consultation. Growers can also submit ideas for R&D projects via Hort Innovation's Concept Portal at horticulture.com.au/concept-proposal-form.

For more information about the National Vegetable Levy, visit ausveg.com.au/rnd/thelevysystem/vegetablelevy.htm.

This communication has been funded by Horticulture Innovation Australia Limited using the National Vegetable Levy and funds from the Australian Government. Project Number: VG15027





MANAGING A CRISIS IN THE VEGETABLE INDUSTRY

Many growers and industry members may be unaware that a Crisis Management Team, facilitated by AUSVEG, has been funded and trained to effectively respond to any crisis that may negatively impact growers, consumers, industry assets or the reputation of the vegetable industry as a whole. *Vegetables Australia* outlines the role of the Crisis Management Team and its objectives moving forward.

A number of recent events have, directly and indirectly, negatively impacted the vegetable industry's growers, market position, supply chain and reputation with government, retailers and customers. These events range from accidental contamination of fresh produce to significant workforce issues and unrest.

In these situations, a crisis management plan has been developed by the industry to respond to a crisis. As a result of AUSVEG's role in facilitating this plan, the Crisis Management Team works with relevant stakeholders, authorities and the supply chain to manage the issue to protect the industry's reputation.

LOOKING FORWARD

Currently, steps are being taken to research and develop improvements to the crisis management capability.

Independent global risk consulting group Control Risks has been engaged by Horticulture Innovation Australia (Hort Innovation) to deliver a vegetable levy-funded R&D project *Crisis Management Awareness for the Australian Vegetable Industry* (VG15016). This project is assisting AUSVEG to enhance the vegetable industry's crisis management awareness and capability. The initiative components include:

- A post-incident review of the AUSVEG response to a food safety incident in February 2016.
- Updating the AUSVEG crisis management plan.
- Training and exercising the new members of the AUSVEG Crisis Management Team.
- Organising a vegetable industry crisis management seminar.

KEY OBSERVATIONS

Several factors were taken into consideration when consulting on this project. One observation was that vegetable growers were not aware of the support that AUSVEG can provide during emerging crises.

In light of this, regular, timely and effective collaboration between AUSVEG, growers, distributors, retailers and relevant government departments will be introduced to enhance the industry's response to events that hold the potential to negatively impact the community and the vegetable industry.

In addition, risk awareness combined with proactive identification, assessment and communication among vegetable industry stakeholders is fundamental to reducing the severity and duration of emerging crises. In most cases, contextual information

and lessons learned from industry impacts can be anonymously collated and disseminated without negatively affecting commercial interests or market competition.

OPPORTUNITIES FOR IMPROVEMENT

To ensure all vegetable growers are aware of the support and resources available to them during emerging crisis events, AUSVEG will increase communication with and engagement of vegetable growers to promote awareness of their respective roles and responsibilities in the event of an emerging incident or crisis being identified.

AUSVEG will also look to establish a risk council comprising vegetable industry stakeholders to promote collaboration and maintain relationships and risk awareness across the industry.

In addition, the anonymous collection, collation and dissemination of lessons learned from events managed by the Crisis Management Team will be discussed with the wider industry to enhance awareness and educate vegetable growers on controls or appropriate response actions to take if the event occurred again in the future.

Early notification and preparation are critical components to an effective industry response and are essential for AUSVEG to activate its crisis management plan. In the event of a potential or emerging crisis, it is always best to be as prepared as possible.

If you are aware of a potential crisis, or are unsure of the potential impact of an emerging incident, growers and industry members are strongly encouraged to call the **Crisis Hotline on 1300 855 170**, or **Crisis Management Team members on 03 9882 0277**. This will allow AUSVEG to work with you to protect your reputation and that of the industry. Calls to this number will be answered 24/7 and immediate advice will be offered by the call handler.

R&D ■ Market & Value Chain Development

INFO

This project, *Crisis Management Awareness for the Australian Vegetable Industry*, has been funded by Horticulture Innovation Australia Limited using the National Vegetable Levy and funds from the Australian Government.

Project Number: VG15016



HISTORIC SIGNINGS BETWEEN AUSTRALASIAN AND DUTCH HORTICULTURAL ORGANISATIONS

Horticulture Innovation Australia, the University of Tasmania and New Zealand-based Lincoln University have established a ground-breaking partnership with Wageningen University of the Netherlands, while AUSVEG has announced its own Memorandum of Understanding with Dutch seed company Rijk Zwaan.

Some of Australasia's leading horticultural organisations signed historic Memoranda of Understanding (MoU) with leading Dutch research institutions and agribusinesses on 3 November 2016, in an effort to increase collaboration among some of the world's leading horticultural producers.

The ceremony was attended by Their Majesties King Willem-Alexander and Queen Máxima of the Netherlands at Cockatoo Island, off the coast of Sydney. Horticulture Innovation Australia (Hort Innovation) joined the University of Tasmania and Lincoln University in the signing of a MoU with world-leading agricultural institution Wageningen University of the Netherlands to mark the new partnership developed through the creation of the *Masterclass in Horticultural Business*.

The *Masterclass in Horticultural Business* is the first project of its kind in Australia. Best described as a mini-MBA, the masterclass is available to growers and people working in the supply chain looking to take their business to the next level. Under this investment, up to 30 selected industry leaders each year will be exposed to a program that focuses on global trends in agriculture and horticulture, international business, innovation, value chains, governance and risk.

"Increasingly, Australian horticulture is attracting the eye of major industry players around the world, which is in no small part due to our reputation for delivering quality, clean produce, and our drive to

continuously develop and innovate," Hort Innovation Chief Executive Officer John Lloyd said.

STRENGTHENING RELATIONSHIPS

On the day of the historic MoU signing, AUSVEG and prominent Dutch seed company Rijk Zwaan established a Strategic Partnership, which will ensure the Australian vegetable industry can work more closely with this major international vegetable seed production organisation.

Rijk Zwaan is one of the world's leading developers of vegetable varieties, with its head office located in the Netherlands. Its seeds are sold in more than 100 countries through 30 locally operating sales subsidiaries and many distributors.

This agreement formalises a strong relationship between the two companies and their respective industries, and AUSVEG looks forward to ensuring this partnership delivers ongoing benefits to the Australian vegetable industry.

INFO

For more information, please visit horticulture.com.au or rijkszwaan.com.au.

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NEXT GENERATION IN THE TOP END



NAME: Chris Pham
AGE: 26
LOCATION: Marrakai, Northern Territory
WORKS: Nexgen Produce
GROWS: Lebanese cucumber, snake beans, bitter melon, sin quar, winter melon, long melon and okra

HOW DID YOU FIRST BECOME INVOLVED IN THE VEGETABLE INDUSTRY?

I've been involved in farming since my parents moved up to Darwin back in 1996. As a child, I would do the odd jobs around the farm with my brothers to help out Mum and Dad.

WHAT IS YOUR ROLE IN THE BUSINESS?

I am currently the owner/operator of Nexgen Produce. My parents are semi-retiring and have been kind enough to let me use their land to cultivate my own produce.

HOW WOULD YOU DESCRIBE YOUR AVERAGE DAY AT WORK?

I can sum it up in one word and that would be BUSY. No two days are the same but there is always something to do.

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

I enjoy the process of watching my crops grow from a tiny seedling to a fully-fledged harvest. There is something very beautiful and satisfying about knowing that my produce will end up at a family dining table. This is what keeps my enthusiasm and motivation up.

WHAT ARE THE BIGGEST CHALLENGES YOU FACE WORKING IN THE INDUSTRY?

As we have well and truly moved into the wet season in the NT, one of the main challenges I'm facing as a new farmer is controlling the amount of water to feed the crops.

WHAT HAS BEEN YOUR GREATEST ACHIEVEMENT SO FAR?

My greatest achievement so far is simply being recognised by my own parents, who have been farming for over 20 years, as being very capable of running the farm. My father especially has been a great mentor and with their guidance, I hope to achieve much more.

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

I definitely see growth in the export sector of the vegetable industry. As a country, our produce is one of the highest of qualities in the world and there is a big demand for that.

I feel that if we start talking more about where healthy food comes from, and how it is produced and harvested, it will encourage the younger generation to be more interested and involved in the vegetable industry.

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

I personally feel that in the last couple of years there has been this major health kick epidemic that's taken over social media. There are so many people now who are health conscious, who are heading to the gym and eating a more healthy diet. I feel that if we start talking more about where healthy food comes from, and how it is produced and harvested, it will encourage the younger generation to be more interested and involved in the vegetable industry.

IF YOU WEREN'T WORKING IN THE VEGETABLE INDUSTRY, WHAT WOULD YOU BE DOING?

Believe it or not, I was working for one of the big four banks before farming. So I guess if I wasn't given the opportunity to take over the farm, I would still be in the corporate world.

WHERE DO YOU SEE YOURSELF IN FIVE YEARS?

I see myself still farming in the next five years, but on a bigger scale. I also hope that in due time I can set up and branch out into the organic market.



Photography by Nichole Taylor.

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22 young growers visited Ellement Produce in Western Australia in November 2016.



A full house at the Bundaberg Fruit and Vegetable Growers 2016 Industry Gala Dinner.

EXTENSION UPDATES FROM AROUND THE NATION

The National Vegetable Extension Network has experienced a busy end to 2016, which was highlighted by a gala dinner in Bundaberg, a Vegetable Industry Leaders Summit in Western Australia and the network's inaugural annual meeting.

WIDE BAY BURNETT, QLD

When guests entered what is traditionally known as a shed, they were immediately awash with a haze of blue and soft twinkling lights in representation of a 'night under the stars', which was the theme for the Bundaberg Fruit and Vegetable Growers (BFVG) 2016 Industry Gala Dinner.

More than 520 regional producers and representatives from Woolworths, Coles, local MPs, AUSVEG and agricultural supply chain businesses attended the successful event. Held on 8 October 2016, it offered plenty of networking opportunities for vegetable businesses in the region.

Wide Bay Burnett – National Vegetable Extension Network (NVEN) staff members took the opportunity to speak with Professor Fiona Coulson and Professor Phil Brown from Central Queensland University on how the two organisations could collaborate by potentially linking students and graduates to local producers for thesis projects and work experience. Vegetable growers were interested to hear about the Wide Bay Burnett NVEN project and are keen to participate in one-on-one consultations that will commence in 2017.

WORKING WITH VEGETABLE GROWERS

Industry Development Officers (IDOs) Kylie Jackson and Daryl Anastasi are fortunate to have direct relationships with a number of vegetable industry support businesses who are already working

in the region and embarking on various research activities. Kylie and Daryl are working closely with these businesses to coordinate the distribution of research papers, host succinct workshops and pave the way to assisting vegetable growers in the region to build their business capacity.

Expressions of interest are invited for a March 2017 workshop in Bundaberg on the Vegetable Industry Strategic Investment Plan for 2017-22. Please register your interest on the website below.

How to keep in touch:

- Contact BFVG Project Officer Daryl Anastasi on 0428 716 218 or daryl.anastasi@bfgv.com.au.
- Keep up with upcoming events on the website: bfgv.com.au/events.

WESTERN AUSTRALIA

On 25 November 2016, vegetablesWA hosted a Grower Group Tour and the Industry Leaders Summit for the second year. The event was hailed a success, with 22 young grower attendees undertaking a tour of Ellement Produce and Baldivis Farms before attending the Summit in the afternoon.

The Summit was opened by Tim Morris from Coriolis, who spoke about the exporting opportunities for WA vegetable growers. Colmar Brunton and Nielsen representatives then provided the findings from recent consumer research to the growers, discussing

three product lines. The information was based on research projects funded by Horticulture Innovation Australia (Hort Innovation) which are currently being conducted.

Overall the event was successful, with growers having plenty of knowledge to take away and implement on-farm.

How to keep in touch:

- Contact Industry Development Officer Truyen Vo on 0457 457 559 or truyen.vo@vegetableswa.com.au.
- Keep up with upcoming events on the website: vegetableswa.com.au.

INAUGURAL ANNUAL MEETING

The National Vegetable Extension Network held its inaugural annual meeting at the Hort Innovation office in Sydney from 25-26 October. Sixteen vegetable IDOs representing 10 regions of Australia came together for two days of networking, planning and discussions.

Highlights included a session on the use of webinars from Dr John James and presentations from vegetable researchers on some of their recent work and areas for extension to vegetable growers. IDOs discussed their plans for the coming year and identified some opportunities for collaboration between regional groups.

An overview of vegetable levy funded research projects and extension resources from the last 10 years was presented. The IDOs now have the chance to transfer some of that research into valuable improvements for vegetable growers.

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.

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

Project Number: VG15049



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Varroa destructor. Image courtesy of Scott Bauer, USDA Agricultural Research Service, Bugwood.org.



Varroa jacobsoni. Image courtesy of Lilia De Guzman, Bugwood.org.

ALL QUIET ON THE HOME FRONT: WHY A WORKING BIOSECURITY SYSTEM IS AS NOISELESS AS A WELL-OILED MACHINE

In this edition, *The Front Line* investigates a recent CSIRO analysis of 1,300 global plant pests that will determine the risk of invasion and impact on major agricultural crops. This was done on a country-by-country basis, taking into account international trade pathways to identify countries that are major sources of plant pests. AUSVEG National Manager – Science and Extension Dr Jessica Lye explains.

According to the CSIRO, global agriculture is not homogenised when it comes to plant pest distribution. Many countries, especially Australia, are vulnerable to the threat of new pests. Indeed, even within Australia there is a geographic variation of plant pests. Mediterranean fruit fly and Queensland fruit fly are examples of this variance.

In addition, countries with diverse commodities and/or large trade volumes were found to represent the greatest source of invasive pests and pathogens. CSIRO emphasises that as trade volumes continue to increase and more trade connections are made between countries, the pressures from invasive species will intensify.

The research gives surety that Australia is on the right track with plant pest response. While we have a relatively high likelihood of plant pest arrival, the overall economic impact would be low due to strong prevention and management systems and a diverse economy. This is cause to celebrate, but also provides incentive to maintain the system we have, and improve it where we can.

Taking note of international initiatives – what has worked and what has not – is one method of improving our current system.

UNITED KINGDOM

The United Kingdom initiated a country-wide surveillance scheme in 1964 to understand how and why insects migrate. Since that time, the Rothamsted Insect Survey, which is composed of two suction trap networks (11 traps in England and four in Scotland), has resulted in the development of an extensive insect bank and contributed to decisions on pest control. It has been an invaluable tool for research into insect migration and population genetics, and acted as an early detector system.

Similar systems based on the UK model, using the same trap design, are now in place throughout Europe and Scandinavia with 73

traps installed and 46 in operation. All contribute to the Exploitation of Aphid Monitoring in Europe (EXAMINE) network in which data is regularly analysed and shared on a daily or weekly basis.

NEW ZEALAND

New Zealand began using powered suction traps of the Rothamsted design to monitor insect arrivals and movements in 1981. They have been scientifically proven to give an accurate representation of the types and number of insects in the surrounding area.

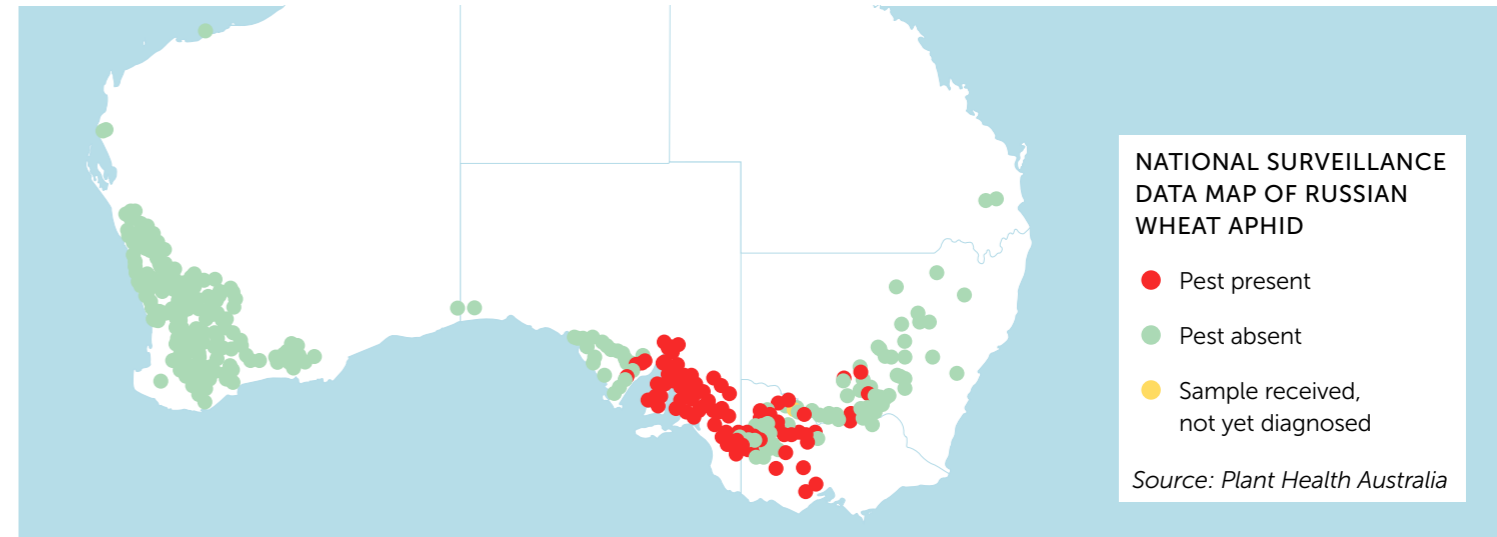
The types of data collected were broad, covering a wide range of both pest and beneficial insects. This system was used by industry to respond to pests in a near real-time manner, with data published on a weekly basis (for example, aphid vectors of Barley yellow dwarf virus). The data allows growers to know exactly what pests are present in each region on a regular basis so that informed management decisions on seasonal pests may be made.

UNITED STATES

In the United States, an initiative termed *Protect U.S. – Community invasive species network* now provides an overarching engagement and extension program that seeks to educate industry stakeholders about destructive plant pests.

Protect U.S. is a collaborative partnership between the US National Plant Diagnostic Network (NPDN) and the US Department of Agriculture. This collaboration ensures that information on-site and distributed by officers is informed by up-to-date scientific evidence.

Regional and state surveillance schemes sit under this initiative – one such scheme is the Florida First Detector initiative. Managed through the University of Florida, this scheme encourages industries and communities to stay vigilant and report suspect pests. The



NATIONAL SURVEILLANCE DATA MAP OF RUSSIAN WHEAT APHID

- Pest present
- Pest absent
- Sample received, not yet diagnosed

Source: Plant Health Australia

success of this education initiative is underpinned by a national surveillance network, linked by schemes such as the Florida First Detector program.

AUSTRALIA: SILENCE IS GOLDEN

It is a true indication that Australia's biosecurity system is working when pest media articles are uncommon and when an industry is not undergoing consultation to raise an Emergency Plant Pest Response levy.

There are hundreds, and sometimes thousands, of pest interceptions at our ports and other high risk entry sites every year. High numbers or changing patterns of interceptions at the border can indicate an elevated risk of plant pest introduction.

Recently, the Federal Department of Agriculture and Water Resources responded to increased detections of Brown marmorated stink bug at Australian ports. In response, break bulk cargo import conditions were made more stringent and this pest is now being used in a pilot project through Plant Health Australia to improve the structure of contingency plans (these plans support government and industry decision makers during plant pest preparedness and response).

Detection of damaging pests in countries or regions that pose a source risk can also initiate preparedness measures. As another example, information regarding the detection of the psyllid vector of the citrus disease Huanglongbing in California a number of years ago prompted a review of import conditions for citrus from that state.

However, while our biosecurity system can reduce the risk of a pest incursion, or catch pests at the border, some pests are not identified before they can enter and establish in Australia. This is where early detection becomes critical.

One example of effective early detection is the recent detection of *Varroa jacobsoni* mite in Townsville. A government-industry funded eradication program is now underway as the national committee responsible for incursion management feel this pest can be eradicated. Fortunately, *Varroa jacobsoni* does not affect European honey bees. If the more serious *Varroa destructor* was detected and became established, it could affect 1,700 commercial honey bee businesses, 20,000 crop industry businesses and 10,000 hobby beekeepers.

WHAT'S NEW IN NATIONAL PREPAREDNESS?

In 2015-16, Plant Health Australia completed the 'Caring for our Country' innovation project to develop a system for the national surveillance for weeds and plant pests – essentially a virtual system

to collate, aggregate and assess information on Australian plant pests to inform industry and government about pest distribution. The project resulted in *AUSPestCheck*, which will be an essential tool in the coordination of national pest surveillance.

AUSPestCheck is designed to link existing surveillance databases and systems, facilitate the development of a national surveillance system, and process information for use by government and industry. For example, it can be used to automatically alert users when pests are moving or being found in new areas.

When supported by regional and state/territory surveillance schemes (such as the Rothamsted surveillance network or Florida First Detector program overseas), *AUSPestCheck* has the potential to store pest distribution information to support market access – both interstate and international – and provide real-time pest information to growers. This information may then aid in making more cost-effective pest management decisions on-farm, such as the timing and frequency of spray application.

As would be expected, the system complies with standards ensuring data and information stored within *AUSPestCheck* meets the security, access and privacy requirements of information contributors. These contributors must be registered users in order to supply and receive information. As an example of practical use, *AUSPestCheck* is currently being used to track the distribution of the Russian wheat aphid (*Diuraphis noxia*), a damaging pest of grain crops across South Australia and Victoria (see map above).

AUSPestCheck is intended to provide industry regional groups with a national perspective of important plant pests and a mechanism for contributing pest detection data to a national surveillance plan alongside government departments and other stakeholders. Unlike industries such as grains and citrus, the vegetable industry has yet to develop a surveillance scheme for high priority established and exotic pests.

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

INFO

For more information about *AUSPestCheck* and how you may get involved, please contact AUSVEG National Manager – Science and Extension, Dr Jessica Lye at jessica.lye@ausveg.com.au or 03 9882 0277.

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

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

Project Number: VG15027

Horticulture
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Australia



Mission participants at the Mirador lookout in Santiago, Chile.



Greenhouse in La Plata, Argentina.



Cesar Veliz's farm, Chile.

YOUNG GROWERS RECEIVE A TASTE OF SOUTH AMERICA'S VEG INDUSTRY

A group of seven young Australian vegetable growers recently travelled to South America as part of the 2016 Young Grower Industry Leadership and Development Mission. Visits to farms and key industry stakeholders in Chile, Brazil and Argentina provided an eye-opening experience for this next generation of Australian growers.

It was with great enthusiasm and excitement that seven young Australian vegetable growers embarked on a two-week journey to visit farmers, markets and prominent horticulture groups as part of the 2016 Young Grower Industry Leadership and Development Mission to South America.

From 12-24 September 2016, the group travelled to Chile, Brazil and Argentina where they learnt about the on-farm challenges facing South American vegetable growers, the technology used in crop production and the intricacies of the supply chain.

Throughout the mission, participants met with Austrade representatives and key members of South American horticulture to discuss the main issues affecting their respective industries and share their knowledge about different industry practices.

AN EYE-OPENING EXPERIENCE

The mission began in Chile, where participants visited several farms and discussed key issues with local growers, including the strong relationship that Chilean vegetable growers have with retailers and the labour requirements for their various operations.

When visiting Cesar Veliz's vegetable farm in Curacavi, near Santiago, the delegation was surprised to hear that the biggest threat to the farm are thieves, who attempt to steal the produce and then sell it themselves. To combat this, the farm hires an armed guard to scare off the would-be thieves.

During these farm tours, the delegation also gained an insight into the irrigation systems used and realised how wasteful Australians can be with their water supply.

In Brazil, participants were surprised to learn that the government is aiming to continue the long-standing tradition of family farming by providing subsidies and grants. Participants

enjoyed a visit to the family farm of Luis Yano in Mogi das Cruzes, which grows 94 types of exotic lettuce for the high-end gourmet local market. The participants were impressed that the grower was maximising his opportunity to increase profit, particularly given the limited land available.

Tomita Hortalicas was one Brazilian farm that took great pride in the cleanliness of its facilities and worker standards were set incredibly high. It was noted that labour is its most important asset, and the Australian growers were impressed that the operation provides free meals and accommodation to its employees to ensure it is a happy place to work. It provoked thoughts of what they could incorporate into their businesses back home.

In Argentina, a highlight of the mission was a visit to the organic farm Tallo Verde, based in Lujan. Carlos Marro and his sister-in-law began growing their own vegetables to cook with and soon experienced significant growth in the operation. They now grow seedlings as well as the produce, then package and deliver it to customers. Participants were surprised to learn that there were limited pest and waste issues on the farm, which aims to be 100 per cent organic and currently holds accreditation from countries around the world.

INSIGHTFUL VISITS

Throughout the mission, the delegation travelled to a range of wholesale produce markets across the three countries. Participants visited the largest wholesale produce market in Chile, Lo Valledor, where they compared grading, quality and health and safety practices with those in Australia.

It was noted that Chilean wholesale markets work similarly to those in Australia, however they were much more chaotic and not overly well organised. There was a continual fascination

with what could be achieved manually due to the cheap cost of labour in the country.

During an impromptu visit to Jumbo, a Chilean supermarket chain, the delegation agreed that they would be unable to sell the produce they saw on the shelves to supermarkets in Australia due to stricter quality assurance standards.

LEARNING OPPORTUNITIES

In between the insightful farm and market visits, participants met with leading South American vegetable industry bodies. This included the National Institute for Agriculture Investigation (INIA), which is the main horticultural organisation in Chile. INIA accompanied the group to greenhouse visits, where participants learnt new methods for growing produce in greenhouses and different techniques to keep the heat inside the greenhouse.

The delegation also visited the National Service of Agrifood Health and Quality (SENASA) Phytosanitary Department in Argentina. During the meeting, SENASA representatives were interested to hear about quality control and vegetable exports in Australia. There was great conversation from both sides of the meeting, with the delegation emerging with a broader knowledge about quality control in Argentina.

The group also enjoyed a robust discussion with members from Argentina's Ministry of Agriculture about emerging opportunities in Australia. The role that AUSVEG plays in representing vegetable and potato growers and the opportunities that come from the National Vegetable Levy were discussed, as this is not an option that Argentinian growers have access to.

A SUCCESSFUL MISSION

The mission concluded with a meeting between participants and the Australian Ambassador to Argentina, Noel Campbell. Mr Campbell was extremely interested to hear how the mission had unfolded, and he noted that while many view the two countries as competitors due to their similarities in climate and land, Argentina believes a great opportunity exists to learn about growing practices in Australia.

Now that participants have returned home, it is important that they keep in contact with each other and reflect on what they have learnt in South America, as this will help to shape not only the future of their businesses, but the Australian vegetable industry as a whole.

R&D ■ Drive Train

INFO

AUSVEG would like to thank Austrade for their assistance in organising farm visits and stakeholder meetings during the mission.

A full project report will be released in coming weeks and will be made available on the InfoVeg website: ausveg.com.au/infoveg.

The 2016 Young Grower Industry Leadership and Development Mission was funded by Horticulture Innovation Australia Limited using the National Vegetable Levy, contributions from Australian vegetable growing businesses and funds from the Australian Government.

Project Number: VG15703



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Food Ladder Hydroponics Manager Lina Challita giving a lesson on how plants grow to Indigenous girls from Katherine High School.

REMOTE AUSTRALIAN REGIONS CLIMBING THE FOOD LADDER

A French-Lebanese native, Lina Challita is a worldly and well-travelled woman who plays an active role in the Food Ladder program based at Katherine in the Northern Territory. Food Ladder aims to increase the consumption of fruit and vegetables in the local Indigenous community by providing an opportunity for residents to actively take part in the growing process. Lina spoke to *Vegetables Australia* about the community development projects currently being undertaken.

According to the 2008 report, *Health and Welfare of Australia's Aboriginal and Torres Strait Islander Peoples*, 15 per cent of Indigenous people living in remote areas had no usual daily intake of vegetables, as compared to their non-remote Indigenous counterparts (two per cent).

Additionally, *Burden of Disease and Injury in Aboriginal and Torres Strait Islander peoples 2003* attributed 3.5 per cent of the total burden of disease in the Aboriginal and Torres Strait Islander population to low fruit and vegetable consumption.

It is stark figures like these that have led to programs such as Food Ladder to be established. Food Ladder is a Non-Government Organisation that creates social enterprises for Indigenous communities around the Northern Territory. At the moment, the program is focusing on building greenhouses to provide fresh vegetables in those communities.

A FRESH SOLUTION

Lina Challita is the Hydroponics Manager at Food Ladder, and her role involves helping with the construction of the greenhouses, managing the hydroponics system and providing greenhouse training to various community groups.

"Food Ladder has so far worked in East Arnhem, where most of the vegetables come from down south (for example, Adelaide) and they have to be transported all the way up to Darwin," she said.

"From Darwin, they are sent to the remote communities and by the time the fresh produce gets there, it's 2-3 days before it goes

off. The distance results in large travel miles and environmental footprint from bringing in food, not to mention reduced quality of the produce.

"Through the greenhouses, we work on community development projects to train people on how to grow produce, where the produce comes from, how to manage the greenhouse and how to grow everything from start to finish."

COMMUNITY INVOLVEMENT

The program's first aim is to grow fresh produce that is accessible to local communities. The second aim has a more nutritional approach – to get people more involved in where their food comes from, and encourage them to eat green vegetables.

"We're also starting to get kids involved through the local schools," Lina said.

"For example, our project in Katherine has students from Katherine High School come for regular field trips and they visit the greenhouse. They help harvest and plant seeds. I personally train them about how plants grow and what they need in order to produce good quality veg."

EMPOWERING WOMEN

In addition to her projects with children in both Katherine and East Arnhem, Lina is working with the Katherine Indigenous Women's Association on how to run the Food Ladder program.



"We're helping the Katherine Indigenous Women's Association to become a business. What I'm doing is working on the greenhouse and training them to run it, as well as helping them with sales of the produce and how to manage the finance linked to the greenhouse – the much bigger picture," Lina said.

"They are a wonderful group of ladies who are really motivated and it's getting them to run it all by themselves as a business. Their vision for the project is to be that kind of educational centre or community farm for people to come in and learn about nutrition, learn about where food comes from and eventually buy the fresh produce."

Lina loves working in remote communities, particularly in areas that typically require a permit for work purposes and therefore do not allow tourists to visit.

"It's such an experience. I get to go to places where most people don't have access to, be close to that culture and learn and connect with those people who don't really get to meet a foreigner – that's the most exciting part," she said.

FUTURE VISION

Food Ladder's aim for the Northern Territory project is to build more greenhouses to create fresh food sources in those areas and generate more community engagement in the process.

The program has already had a profound effect on these communities.

"They are very proud of what they've achieved. I was there throughout the whole first cropping season, working with a group of 10 men who are participating in the community development project," Lina said.

"The greatest outcome is their enthusiasm. Those people who are working on the greenhouse as part of the community development project are encouraging other locals and their family members to come in, check it out and try the produce. We're handing out small cooking recipes on how they can use the vegetables at home. Word is spreading, and people are curious."

INFO

For more information, please visit foodladder.org.



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Important: The descriptions, illustrations, photographs, advice, suggestions and vegetation cycles that may be presented herein are aimed at experienced professionals and are derived from observations made in defined conditions on various trials. They are offered in all good faith, for purely informational purposes, and shall not therefore, under any circumstances, be held to be exhaustive, be taken as any form of guarantee of harvest or performance, prejudice specific factors or circumstances (either current or future), and more generally, form any kind of contractual undertaking whatsoever. The user must first and foremost ensure that his exploitation conditions, local geographical conditions, his planned growing period, his soil, the means at his disposal (such as technical knowledge and experience and cultural techniques and operations), his resources (such as tests and control methods) and his equipment, and more generally his agronomical, climatic, sanitary, environmental and economic context are suitable for the crops, techniques and varieties that are presented herein. All the varieties illustrated in this publication were photographed in favourable conditions and no guarantee can be provided that results will be identical under different conditions. All reproductions, whether in part or in whole, of this publication (of the medium and/or the contents), in any form whatsoever, are strictly forbidden, unless specific prior permission is granted. Non contractual photographs - All rights reserved - © 2016 HM.CLAUSE

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Mike Badcock was recognised at the Australian Farmer of the Year Awards, co-hosted by ABC Rural and the Kondinin Group.



Bulmer Farms Managing Director Andrew Bulmer and his team were recognised for the first time at the East Gippsland Business Awards.

TWO VEGETABLE INDUSTRY LEADERS RECOGNISED

Former AUSVEG Chairman Mike Badcock and Victorian growing operation Bulmer Farms have been rewarded for their hard work, passion and dedication to the Australian vegetable industry through two awards that recognise their innovation, sustainability and community contribution.

Tasmanian Mike Badcock has been an influential figure in the vegetable industry for decades, through his roles at AUSVEG and the Tasmanian Farmers and Graziers Association, as well as developing the Vegetable Industry Advisory Committee.

Mike was one of five farmers recognised at the 2016 Australian Farmer of the Year Awards, co-hosted by ABC Rural and the Kondinin Group. These awards celebrate rural champions, both on- and off-farm, and acknowledge those who have made an enormous contribution to their respective industries.

SHOWING COMMUNITY SPIRIT

Mike received the inaugural Rural Community Leader of the Year award not only in recognition of his leadership in the vegetable industry, but also his devotion to organisations at local, state and national levels.

The Forth farmer told *Vegetables Australia* he was proud to receive the award, and it gave him confidence that the horticulture industry was heading in the right direction.

"It backs up my judgement about the industry going forward. It gives me confidence in moving forward into the future to develop and make it better," Mike said.

TRANSITIONING STAGES

Mike's community involvement stems from his parents, who were both in agriculture and community groups.

"I enjoy being with people, and it's all about pulling people together and working together to achieve things. That's one of the biggest joys in life," he said.

"I found that by being involved in the industry, it gave you a much better handle on what the industry is about. It allows you to make better judgements in your own operation as well."

Mike's involvement at a community level slowly transitioned into generating change on a bigger stage.

"It was an evolving process. I started off very much grassroots, where you basically went along and attended the meetings. It grew

from local level to state level, and then national level and quite often, into international. I've been fortunate enough to travel the world several times because of my involvement in organisations," he said.

Mike also received the inaugural Kondinin Group Award for Excellence in diversifications for farming strategies, which recognises his innovation on-farm.

"I'd like to think I was a pretty successful farmer and I'm pretty proud of that. I think I've been innovative in my farm practices and hopefully I've set the pace and allowed people to look at new ways of doing things."

BUSINESS ACHIEVEMENT

Meanwhile, Bulmer Farms Managing Director Andrew Bulmer and his team of approximately 100 staff were recognised for the first time at the East Gippsland Business Awards in October 2016.

Bulmer Farms, based in Lindenow, Victoria, picked up three accolades at the event: Agribusiness Award, Innovation Award and the Outstanding Achievement Award.

"It's good recognition for our staff," Andrew said. "Obviously, it's a massive team effort to run a large-scale horticultural enterprise. It's something for our staff to be proud of that they all get recognised for the part that they play in the business, and what we contribute locally."

INNOVATION SPACE

Innovation and upskilling staff drive Bulmer Farms to make it the successful business it is today.

"You've always got to be looking at new ideas, improvements and different concepts. We have spent a fair bit of money getting around the world and looking at world's best practice," Andrew said.

"We've got an apprenticeship program in place where we bring on a new apprentice into the business at least once a year. We're trying to do things to create our own talent pool going forward, and help promote the industry overall as a place to come and work."



AUSTRALIAN FRESH PRODUCE INDUSTRY COMMENDED FOR CHARITABLE CONTRIBUTIONS

The Australian fresh produce industry was recognised for its distinguished service in fighting hunger at the annual Foodbank awards, which were presented at the Australian Food and Grocery Council Industry Leaders Forum at Parliament House on Tuesday 8 November 2016.

The Foodbank Purple Beret Award acknowledges the fruit and vegetable industry's support in helping to raise awareness of food insecurity and providing fresh produce to help fight hunger in the community.

The award was presented by Assistant Minister for Social Services and Multicultural Affairs Senator Zed Seselja and was received by AUSVEG Director Geoff Knuckey, PMA Australia-New Zealand CEO Darren Keating and Costa Farms and Logistics General Manager Shanon Williams.

HONOURABLE ACCOLADE

AUSVEG was proud to accept the award on behalf of the Australian fresh produce industry, which has doubled its fruit and vegetable

donations to Foodbank in the last five years.

"Australia's vegetable growers have played a key role in donating excess produce to Foodbank this year, in a bid to help families in need benefit from over-supply in the industry," former AUSVEG Interim CEO Simon Bolles said.

"One of the biggest challenges facing the Australian vegetable industry is over-supply in the domestic market. To help overcome this issue, Australian vegetable growers have been donating to Foodbank to ensure that their fresh produce goes directly to those who need it most."

Foodbank is Australia's largest hunger relief organisation. Through collaboration with the Australian food and grocery industry, Foodbank is able to deliver 166,000 meals per day to 2,400 charities and 1,500 schools for distribution to people in need of food relief.

INFO

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



A NEW FASTENING SOLUTION FOR IRRIGATION SYSTEMS

Despite Australia experiencing one of its wettest years on record, irrigation is still at the forefront of the minds of those in the agriculture industry.

To facilitate this, Toro Australia has released its new Hippo Clamps. These are stainless steel irrigation clamps that provide a quick and secure fastening solution for low-density poly pipe and drip tube systems.

Before hitting the market last year, industry professionals had the chance to test out the clamps. Despite the wet weather hindering some installation attempts, the feedback has already been encouraging.

"It was a challenging season for many farmers last year. I haven't seen such a wet winter in years, but customers are still stocking up on Hippo Clamps in anticipation for the drier months," Leon Larson from Darling Irrigation said.

A DISTINCT PRODUCT

Mr Larson has a wealth of expertise in irrigation, and supplies a range of customers across the domestic, commercial and agricultural field. He predicts Hippo Clamps will be advantageous to experts across

the agricultural space.

"What really stands out for me is their distinct colouring," Mr Larson said.

"The colour-coded system makes it really easy to identify clamp sizes. I can tell by the quality of the workmanship that the colours wouldn't fade over time either."

One of Mr Larson's longstanding customers, Agri Australis (a subsidiary of the Ferrero Group) are also on schedule to trial the Hippo Clamps on its hazelnut plantation in New South Wales. Project Manager David Busnello is particularly eager to see the unique positive lock system in action.

"The latching mechanism is very intuitive, which is something other clamps lack. The positive lock means we can hear when the clamp is locked into place, and once it's locked in, it's locked tight," Mr Busnello said.

INFO

For more information or to request a free trial of the Hippo Clamps, please visit hippoclamps.com.au or see your local Toro dealer.



Irrigating broccoli. Images courtesy of QUT.

BENEFITS OF ACCOUNTING FOR NUTRIENTS IN ORGANIC SOIL AMENDMENTS

A recent project carried out by the Queensland University of Technology focused on the benefits of adding organic amendments (such as manure and compost) to the soil. Research coordinator Johannes Biala explained to *Vegetables Australia* the effects this has on fertilisation and crop yield, and the need for a grower support tool that will assist farmers to account for organic and mineral nutrients and optimise their fertilisation practices.



Vegetable growers are well aware of the key role organic matter plays in maintaining soil fertility and productivity. However, increasing production intensity leaves little room for replenishing soil organic matter through green manure or perennial break crops, leaving the use of external organic soil amendments such as manures and composts to achieve these goals.

Growers often use these products to enhance soil physical properties without taking much notice of the substantial contribution they can make to plant nutrition, foregoing significant benefits and missing out on cost reduction opportunities.

A recently completed government and industry funded R&D project entitled *Composting as a means of minimising greenhouse gas emissions from the manure supply chain* examined the degree to which the use of raw and composted feedlot and layer chicken manure can substitute the use of mineral fertiliser, particularly nitrogen, and also reduce gaseous nitrogen losses.

ABOUT THE PROJECT

A major aspect of the project focused on greenhouse gas emissions following the application of raw and composted manures in intensive vegetable production.

"Greenhouse gas emissions in the field are mainly nitrogen-related. Therefore if you don't reduce the mineral fertiliser input when applying manure or compost, you're most likely going to have higher nitrous oxide emissions," Queensland University of Technology Researcher Johannes Biala explained.

The field trials were based in the Lockyer Valley at the Queensland Department of Agriculture and Fisheries' Gatton research station.

"We had one field site where we grew beans, broccoli, lettuce and corn, with 10 metre-long row plots being our treatment plots," Mr Biala said.

"We analysed the manure and compost products and that meant we knew the amount of mineral nitrogen at the time of application. In addition, we also knew the amount of organic nitrogen, and that allowed us to estimate the nitrogen release over a 12-month period. The annual release was cut up into four three-month segments so we could roughly account for the crops and the seasonal variation – obviously during winter, nutrient release would be a lot less than in summer."

ADDRESSING THE ISSUE

Mr Biala said many farmers (not only vegetable growers) apply organic soil amendments primarily to improve soil property or to keep soil carbon levels at a desirable level.

"Many do not account for the nutrients they apply with these products," he said.

"I don't want to say it's necessarily seen as a problem, but in some industries there certainly can be an issue of over-fertilisation if these organic nutrient inputs are not accounted for.

"From my point of view, if you are using organic soil amendments anyway, this is a potential saving for you. This allows you to reduce your mineral fertiliser inputs."

The field trial revealed that the use of organic amendments without reducing standard fertiliser application rates did not result in increased crop yields. However, where nutrients from organic amendments were accounted for and the use of synthetic fertiliser was reduced, crop yields were not reduced.

SUPPORT TOOL

The integrated supply of nutrients from organic and mineral sources needs to be considered when organic soil amendments are used. The conceptual Integrated Nitrogen Supply Model (see graph) shows that with this approach, organic nutrients supplied from manure or compost are topped up with mineral nutrients to meet crop requirements.

Mr Biala said that the conceptual model needs to be transformed into a user-friendly, integrated decision support tool that allows growers to accurately account for plant nutrients supplied by organic soil amendments and to reduce mineral fertiliser inputs accordingly.

Nitrogen supplied from raw and composted feedlot and layer chicken manure led to a reduction of synthetic nitrogen inputs by between 25-38 per cent without affecting yield when compared to standard fertilising practices. Accounting for nitrogen, phosphorus and potassium supplied via organic soil amendments over the two-and-a-half year trial period resulted in fertiliser cost reductions of between \$1,450 and \$2,150 per hectare.

CONCLUSION

This study showed that the use of manure and compost without adjusting mineral fertiliser rates represents inefficient nutrient management practices. However, it is possible to use an integrated organo-mineral fertilisation strategy where nutrients from repeat application of organic amendments allow partial substitution of mineral fertiliser without compromising yield. In addition, the use of composted amendments in combination with reduced mineral fertiliser rates does not result in nitrous oxide losses that exceed those of current standard fertilisation practices.

However, a user-friendly decision support tool for the integrated use of organic and mineral nutrient sources is needed for growers to take full advantage of these findings.

Mr Biala said there are plans for follow-up projects to develop and deliver such an integrated nutrient calculator.

"We are aiming to look for funding both in the agricultural sector and the urban sector. This will be wider than just the vegetable industry – we also want to go to the cropping and sugar cane industries. There are nutrient calculators out there already, but none which integrate those organic and mineral nutrient inputs."

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

INFO

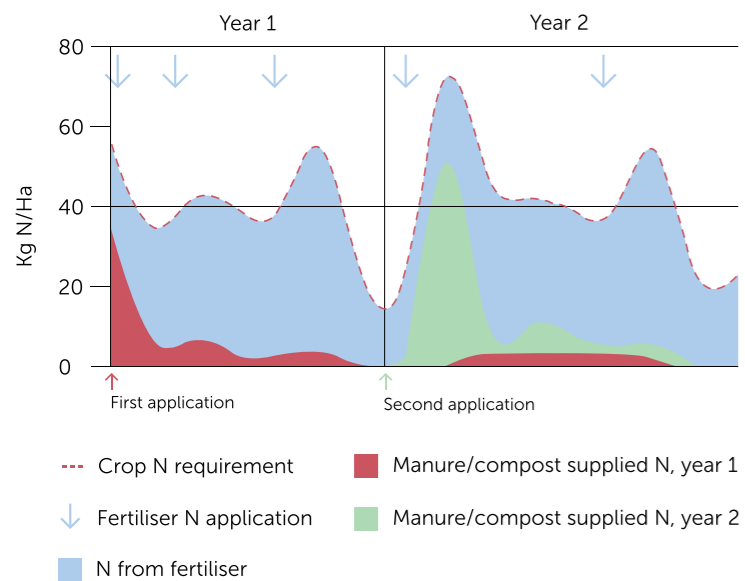
For more information, please contact Johannes Biala on 0409 062 613 or email biala@optusnet.com.au.

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

Project Number: VG15027



GRAPH 1: MODELLING INTEGRATED NITROGEN (N) SUPPLY



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FACTORS IN CROP PROTECTION APPLICATION

As crop protection products can be applied in different ways either before or at planting, it is important for vegetable growers to have an understanding of the key factors that may affect the overall performance of the product. Syngenta Technical Services Lead Scott Mathew explains.

The purpose of applying crop protection products before or at planting – either through the trickle/drip system, at the nursery or as a planting-hole application – is to protect the young plant in the critical establishment phase.

To do this, the active ingredients generally need to be placed in and around the plant's root system, taken up by the roots of transplanted seedlings and then translocated throughout the entire plant via the xylem.

KEY FACTORS

There are many factors that can affect the performance of crop protection products applied as seedling treatments. The key factors are:

- Soil properties play a key role in how crop protection products will perform on your property, particularly soil moisture and soil type. These can affect the performance of the active ingredients in the soil and thus the amount of active ingredient available for plant uptake. Excessive soil moisture due to over-watering may push the active beyond the root zone and cause leaching. Plant uptake is fastest in sandy soils, followed by loams and peat soils. Conversely, performance is greatest in clay soils.
- Performance of crop protection products can also be affected by application type. In general, application as a seedling tray treatment will provide faster uptake and pest control, but shorter protection. Conversely, application as a planting-hole treatment will provide slower uptake but longer protection.
- When using drip/trickle irrigation systems, the equipment must be accurately calibrated to achieve the required application rates prior to treatment. The irrigation system should deliver even distribution along the rows and should be monitored periodically to ensure all delivery points are in working order and there are no clogs or blockages. Products such as TERVIGO™ are most effective when drippers are located directly beside seedlings.

TIMING AND DURATION

In general terms, the crop protection product should be injected into irrigation systems during the second or third quarter of the irrigation cycle (check the product label for the full application directions), after the soil has been partially wetted up.

The duration of injection should be long enough to distribute the crop protection product uniformly – this will vary greatly depending on the irrigation system setup and design, area of crop treated, emitter type and irrigation flow rates (refer to the manufacturer specifications for the irrigation system).

With nursery applications or planting-hole drench, it is important to apply the crop protection product directly at the base of the transplanted seedlings or into the planting-hole immediately before transplanting. The actual total application volume will vary depending on the equipment used, pre-existing soil moisture levels and soil type. This will ensure uniform application and distribution.

Please note, if receiving plants from the nursery that have been treated with a crop protection product, excessive watering of seedling trays on-farm may wash the product from the cells. If the crop protection product you had applied is lost due to over-watering, this will reduce the period of insect or disease control observed in the field.

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 Horticulture Innovation Australia Limited using the National Vegetable Levy and funds from the Australian Government.

Project Number: VG15027



VEGGIE STATS: LETTUCE

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 lettuce production.

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

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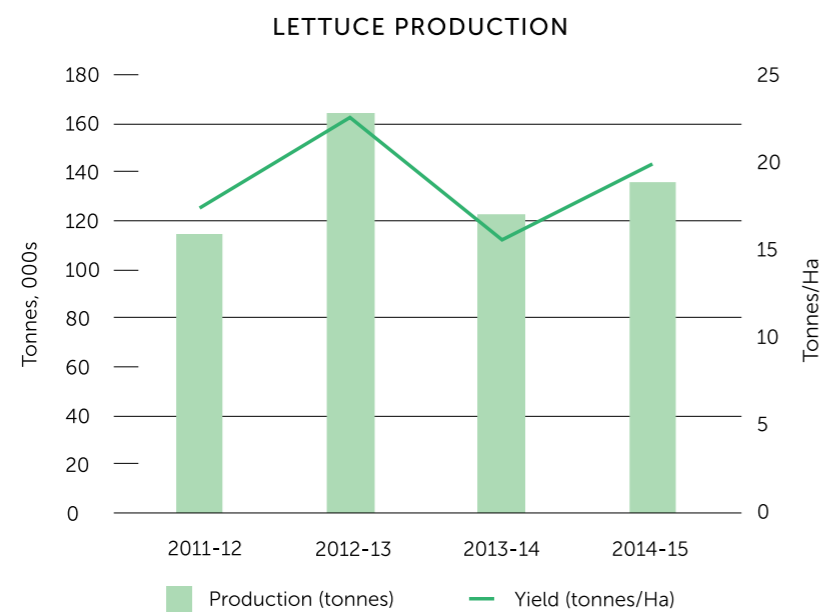
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VEGGIE STATS: LETTUCE

KEY STATISTICS

- Australia produced around 136,000 tonnes of lettuce in 2014-15, an increase of 13,500 tonnes over the previous year. However, production remains below its recent peak of 164,000 tonnes in 2012-13.
- The number of lettuce growers has been steadily declining over the past four years, from 540 in 2011-12 to around 290 in 2014-15.
- There were around 6,800 hectares devoted to lettuce production in 2014-15, a decline of around 500 hectares from the previous year.
- Lettuce exports earned around \$4.3 million in 2015 and have been growing at around 9.3 per cent per annum since 2005.



Source: ABS Agricultural Commodities, Australia 2014-15, Cat. Num. 7121.003

TOTAL EXPORTS

- Lettuce exports earned a record \$4.3 million in 2015 and early indications suggest 2016 will be even higher.
- Total exports of fresh lettuce have been growing steadily since 2012 and more than made up for the declines associated with the Global Financial Crisis, which hit exports in 2010.
- Since 2005, lettuce exports have grown by an average annual rate of 9.3 per cent.



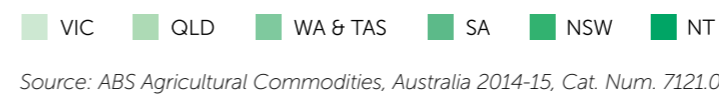
Source: ABARES based on ABS unpublished data.



FACT: The first food grown in space was a crop of red romaine lettuce.

STATE PRODUCTION

- Australia produced around \$168 million worth of lettuce in 2014-15, a 19 per cent increase on the previous year but below the peak of \$193 million in 2012-13.
- Victoria produces approximately 50 per cent of all lettuce grown in Australia.



Source: ABS Agricultural Commodities, Australia 2014-15, Cat. Num. 7121.003



KEY EXPORT MARKETS

- Australia exports to a growing number of countries. The largest export destination in 2015 was Singapore (38 per cent) followed by Hong Kong (20 per cent) and Malaysia (12 per cent). In fact, over 75 per cent of lettuce exported is destined for consumers in south-east Asia.
- The Middle East is an important emerging export market, with three per cent of all lettuce exports heading to the United Arab Emirates in 2015.



Source: ABARES based on ABS unpublished data.

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The Economist Sub-Program is a component of the Vegetable Industry Communication Program and has been funded by Horticulture Innovation Australia Limited using the National Vegetable Levy and funds from the Australian Government.

Project Number: VG15027





The Schreurs family is using rye corn at the start of a leek and double spinach rotation with success.

COVER CROPS, COMPOST AND MORE HELP GROWERS BOOST SOIL AND PLANT HEALTH

The Soil Wealth and Integrated Crop Protection projects work with growers nationally to put soil and plant health research into practice. In this edition, we learn about cover crop trials in Victoria, a compost trial in Western Australia and the latest resources on pest management and nitrous oxide.

The Schreurs family has been farming at Koo Wee Rup in Gippsland, Victoria since 1963. Joe and Johanna Schreurs started the family farm and now Adam, Ben and Chris run Schreurs & Sons which produces celery, leeks and baby leaf.

The rye corn cover crop has continued to provide Adam Schreurs with positive results at the Koo Wee Rup site, located around 80 kilometres south-east of Melbourne.

"Our leek crop has just been harvested and it's one of the best we've ever seen," Adam said at the time of writing.

INCREASING YIELD

Adam is using rye corn at the start of a leek and double spinach rotation, and said the biggest change he had noticed was a 35 per cent increase in boxes of large leeks, despite heavy rain across most parts of Victoria during August and September 2016.

Usually, there is a ratio of small, medium and large leeks of about 30:60:10, whereas in the demonstration site bays this has shifted to 10:50:40. This has been coupled with an earlier harvest of approximately two weeks and reduced disease incidence across the board, making life in the processing and packing shed much easier.

"The soil has also come back to life and is where we want it to be," Adam said.

"We've almost accidentally moved to a minimum till system with the rye corn, as the seed is just power harrowed in. The difference in soil structure in these beds compared to the others is amazing."

With the rye corn sprayed off and the spinach crop about to be planted, Adam is hoping the reduced weed pressure seen in the cover crop will continue.

COMPOST PRODUCES SOIL AND PLANT HEALTH BENEFITS

Have you ever wondered about the potential benefits to soil and plant health from using compost? Need to know the questions to ask a supplier of compost?

Learn more from Sam Calameri of Baldivis Farms in Western Australia, who started trialling compost on-farm more than 10 years ago. This case study provides a unique long-term grower perspective on using compost on a commercial vegetable farm. More information can be found on the Soil Wealth/ICP website.

MANAGING ONION MAGGOT

Onion maggot (*Delia platura*), also known as Seed corn maggot, is an agricultural pest that damages seeds and seedlings in a wide range of crops including corn, beans, onions, garlic, brassicas, potatoes and spinach.

Reports of damage by this pest usually follow cool, wet spring conditions. A fact sheet has been produced that provides practical advice on the damage caused by Onion maggot, its life cycle and the cultural, biological and chemical control options.

NITROUS OXIDE EMISSIONS FROM VEG SOILS

Nitrogen is a key input into vegetable production. Applying high levels of nitrogen, either as fertiliser, compost or amendments is necessary to achieve high yields, but it can also result in nitrous oxide gas being released into the atmosphere.

Nitrous oxide is a powerful greenhouse gas and is responsible for the majority of emissions from the Australian vegetable industry after carbon dioxide associated with electricity production for cooling and pumping. Soil temperature has a major impact on the activity of soil bacteria, which produce nitrous oxide emissions, so it's an issue that is prevalent during the summer months.

A fact sheet on this topic provides useful information on the loss of plant-available nitrogen, reducing nitrous oxide emissions, nitrogen management and keeping informed through soil testing.

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All the above resources can be accessed via the Soil Wealth/ICP website under the 'Resources' tab at soilwealth.com.au or integratedcropprotection.com.au.

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@armcg.com.au.

The Soil Wealth and Integrated Crop Protection projects are funded by Horticulture Innovation Australia using the National Vegetable Levy and funds from the Australian Government.

Project Numbers: VG13076 and VG13078



VEG TRAINING PROGRAM AIMS TO UPSKILL AT ALL LEVELS

VegPRO is the vegetable industry's own education and training initiative. It has been created to ensure vegetable industry-specific training is delivered that is relevant, easy to access, responsive and flexible for producers and their staff. *Vegetables Australia* provides an update on the project.

Many of the current training services available to vegetable producers and their staff are not well aligned with their needs on many levels.

As a result, the vegetable industry decided to invest in targeted training services to effectively upskill people at all levels in the industry, from seasonal staff to experienced growers. Consequently, Horticulture Innovation Australia commissioned the Vegetable Industry Education and Training Initiative, which has been named VegPRO.

AN INDUSTRY FOCUS

Program coordinator Sophie Lapsley said what VegPRO delivers is driven by growers and industry members, not training organisations, with an aim to help Australian vegetable businesses successfully manage challenges and adapt to constant change.

"It's not about us saying to growers, 'This is the training you need.' It's based on what they tell us about the training needs for their business," Ms Lapsley said.

"For example, we heard from growers that they need easy-to-use resources on food safety that can be used for induction training. So we are currently calling for proposals from suitably qualified providers to design and develop training resources that are tailored to the vegetable industry and can be translated into languages other than English. Vegetable levy payers and their staff will have access to these new resources."

HOW TO ACCESS TRAINING

To access VegPRO services or funding for your training ideas, the first step is to visit the program's website vegpro.com.au or contact

Ms Lapsley by phone or email (see details below).

"We then look at the request and assess what we can do. If we feel we can meet that grower's need and there is training out there, we point them in the right direction and help them get that training," Ms Lapsley said.

"If we believe there is a gap in the training services, we'll then raise a request for proposal to provide training, to say this is what we're looking for, can you as a training provider develop or deliver it?"

"We follow that through right to the end. We're always monitoring it. Anybody can get in touch. Growers can not only suggest topics but also providers they know of which do a good job, whether they are Registered Training Organisations or not."

VegPRO is also offering a website portal that provides growers with information about training and what is available.

The project is investigating a 'Training Passport' so that all who work in the industry can collect their qualifications and VegPRO training credentials in one place.

R&D ■ Drive Train

INFO

For more information or to lodge a training need, please contact Sophie Lapsley at sophiel@rmcg.com.au or phone or 0426 200 996.

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

Project Number: VG15028



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VEGETABLE INDUSTRY EXPORT STRATEGY 2020

AUSVEG has recently been involved in the development of the *Vegetable Industry Export Strategy 2020*, which outlines a range of methods to assist the industry to increase Australia’s vegetable exports by 40 per cent within four years and ensure Australia cements its place in the international vegetable export industry. Published in December 2016, the strategy was funded by Horticulture Innovation Australia and prepared by experienced consultants McKinna et al. Tiahn Wright reports.

Australia’s overall vegetable exports are currently lower than the industry’s potential, with many growers not taking full advantage of the opportunities that exporting can provide.

The Australian vegetable export market is one that has the capacity for huge growth. Realistically, Australian growers could increase vegetable exports to \$330 million within four years, and double exports within 10 years.

Given this, AUSVEG in conjunction with Horticulture Innovation Australia (Hort Innovation) has developed a comprehensive export market development strategy, with the aim of assisting more growers, and the industry as a whole, to have success in overseas markets.

The strategy looks at export market potential for different vegetable categories, as well as assessing the value in particular markets. Through the use of specifically-developed tools, the strategy has created a series of targets for the export industry to achieve by the year 2020. Increasing total exports by 40 per cent, enhancing product innovation to access niche opportunities and increasing market access are just some of the benefits the industry can hope to experience from the implementation of the export strategy.

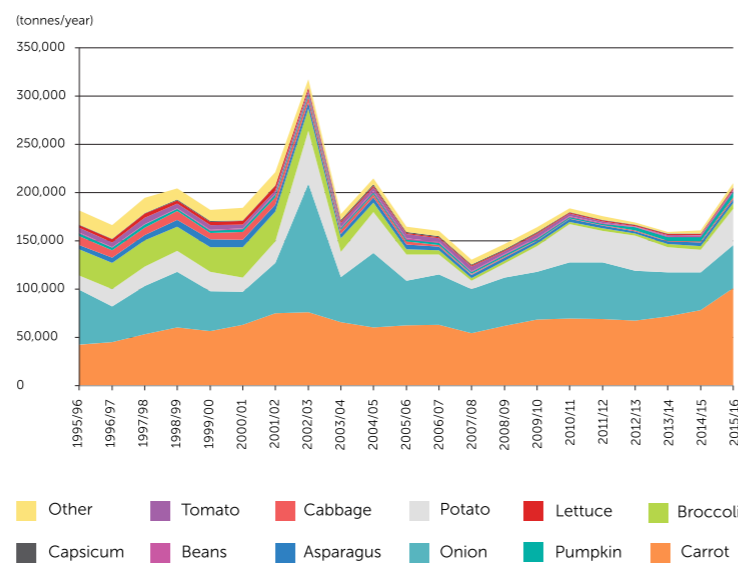
Development of the strategy was funded by Hort Innovation using levies from the vegetable, potato and onion industries.

AUSTRALIAN EXPORTS: CURRENT OUTLOOK

Over the past two decades, a number of competitor countries have experienced considerable growth in the export of a range of different vegetable products. However, Australian vegetable exports in 2015 were tracking at approximately the same value and volume that they were in 1998, albeit with considerable fluctuations in line with currency movements. The last 20 years of vegetable exports (by both volume and value) are outlined in Figure 1.

As it stands currently, carrots, onions and potatoes are the three Australian vegetable products dominating the export markets. South-east and north Asia are currently the biggest and second biggest markets for Australian exports respectively. The Middle East is a rapidly growing market while Europe is trailing quite far behind,

FIGURE 1: 20 YEARS OF VEGETABLE EXPORTS BY PRODUCT



with distance and high cost structures impacting Australia’s ability to be competitive in most categories.

There are a rising number of middle and upper-middle class consumers in both Asian and Middle Eastern markets, with most Asian markets featuring a large cohort of young consumers. A shift in shopping habits has resulted in an increased demand for safe, traceable food from a reliable and sustainable source, as well as premium, packaged and convenient vegetable products. There is also an increasing trend towards greater consumption of western style foods in higher-end food service outlets within these regions.

Industry consultation showed that despite the market showing limited growth over the last 25 years, most are optimistic about the scale of opportunity that exporting presents. Those who currently trade in overseas markets have received positive signals about future export potential, and many industry members believe that Asia’s export markets hold incredible potential for Australian

growers, especially niche markets where consumers are willing to pay a higher price for a premium product.

Having the opportunity to export vegetable produce means less reliance on the domestic market in Australia, as well as less pressure to participate in no- or low-margin retail price promotions.

A limitation to vegetable exporting is that, aside from the onion and sweetpotato industries, the vegetable industry does not have a marketing levy. Due to this limitation, aspects of exporting such as advertising, in-store promotion and other publicity are not covered under the National Vegetable Levy. The inability to fund marketing activities can compromise the efforts of Australian vegetable growers to build long-term export markets, as it inhibits the funding of promotional activities that can drive increased demand. A vegetable industry marketing levy could be investigated to alleviate this issue.

EXPORT GOALS

Australia’s reputation as a producer of high quality, reliable vegetables, combined with our geographical advantage to access Asian markets, means that we are incredibly well-placed in terms of breaking further into export markets. Assessing demographic trends and particular aspects of consumer and lifestyle preferences could help to determine not only where the industry would benefit most from exporting to, but also the reasons these particular markets would benefit from importing Australian vegetables.

Australia’s reputation for quality produce and the growing demand for our produce in specific overseas markets shows that exporting is both a logical and highly valuable step for Australian growers to consider.

The *Vegetable Industry Export Strategy 2020* outlines a range of objectives to achieve the targeted growth in exports, as well as building industry capability to ensure long-term industry success in foreign markets:

- To grow vegetable exports to AUD\$315 million by 2020 – a 40 per cent increase.
- To establish an export culture within the vegetable industry.
- To build the export skill sets of Australian growers.
- To build Australia’s reputation within our core target markets as being a long-term, customer-loyal supplier of quality products with integrity.
- To position Australia as a leader in premium, differentiated products that deliver customer and consumer value (based on a clear understanding of market requirements).
- To support exporters to establish business models appropriate to their situation, which deliver the business systems, critical mass and continuity required for export success.
- To ensure that vegetable exporting businesses are informed with quality market intelligence and customer insights.

FIGURE 2: VEGETABLE INDUSTRY EXPORT STRATEGY

MISSION

To develop a financially sustainable vegetable export sector by equipping industry to produce differentiated products that are customised to the needs of target market segments.

ASPIRATIONAL AIM

The Australian vegetable sector is recognised by the global industry as leading marketers of premium, quality, safe, reliable, branded products.

TARGETS

To grow Australian exports by 40 per cent to \$315 million by 2020.

- 1 CREATE AN EXPORT CULTURE**
Create a culture of export excellence across the industry.
- 2 DRIVE PRODUCT DIFFERENTIATION**
Develop products with a point of difference that will support premium pricing.
- 3 DEVISE A COMPELLING BRAND PROPOSITION**
Devise brand architecture that projects the premium value proposition of Australian vegetables.
- 4 BUILD COLLABORATIVE PARTNERSHIPS**
Improve effectiveness and efficiency of trade development through a more strategic and collaborative approach.
- 5 LIFT SUPPLY CHAIN EFFICIENCY**
Lift supply chain efficiency to improve both quality and landed costs.
- 6 EXPLORE VALUE-ADDING OPPORTUNITIES**
Develop more value-added products to open up new markets and improve competitiveness.
- 7 TUNE IN TO OUR MARKETS**
Ensure exporters have access to commercial market intelligence and insights.

WHAT’S STOPPING US FROM GETTING THERE?

There are a variety of factors that impact Australia’s ability to capture the full benefits that export markets provide. The Australian vegetable industry needs to make the cultural transition from being short-term, opportunistic *traders* of commodities, to long-term *marketers* of differentiated products, customised to highly targeted market needs. →



In most categories, Australian growers cannot afford to compete head-to-head on price. They must pursue niche markets through a value proposition based on non-price factors that will justify premium pricing. These factors include quality, safety, seasonality, service levels or other differentiators; however there is currently a lack of product development to produce the products desired by these markets.

There are a variety of overriding issues that come into play when exporting vegetables from Australia. The strategy was devised to respond to the following issues, which are limiting Australia's performance in export markets:

- The need to drive exports to relieve price pressure on the domestic market.
- Australia's lack of global price competitiveness in many categories.
- The need to develop differentiated products in order to compete on non-price factors.
- Technical market access remains a barrier to fulfilling a number of market opportunities.
- The skill sets, knowledge, experience and culture of prospective exporters.
- The lack of scale and continuity of supply of individual businesses to service export demand.
- The lack of timely commercial market intelligence and insights.
- The need for market research to better understand product and packaging needs and opportunities for each market.
- The importance of communicating consistent and focused brand messaging about Australian vegetables at both the producer and industry levels.
- Fragmentation of resources and mixed messaging from governments and industry bodies.

STRATEGY FOR SUCCESS

To develop a successful strategy, a number of assumptions were made about the future of international trade, including:

- The AUD will remain in a favourable range of around 70-80 US cents for the next five years. For the majority of vegetables, exports are hugely dependant on, and incredibly sensitive to, exchange rate fluctuations.
- The demand for safe food will continue to increase, driven by growth in upper and middle class affluence in Asia and the Middle East.
- Market access will slowly improve as governments need to respond to the growing demand, and market access issues will become increasingly political.
- The market will expand, and competition will intensify as developing nations improve their vegetable production systems.

Figure 2 (see page 33) outlines the strategy platforms that have been developed to help the vegetable industry achieve the overall aims and future targets.

Each of the seven strategy platforms in Figure 2 will result in activities or projects that will be delivered for the vegetable industry, funded by Hort Innovation. These include programs such as:

- Export readiness training for growers.
- Inbound and outbound trade missions.
- Grower study tours to flagship global food product development and packaging trade shows.
- Increased communication to growers about export-related news, events, market insights and opportunities.
- Providing enhanced market insights and market research to ensure that growers have access to relevant, quality and timely market intelligence.
- Grower workshops on product development idea generation and value-adding involving food technologists, research organisations and suppliers.

Australian growers have competitive advantages in quality, product integrity and safety, seasonality and location. For the industry to achieve export success, growers must compensate for a lack of overall price competitiveness in most categories by marketing innovative products with:

- Better quality via the latest genetics and improved production systems.
- Supply chain improvements that address quality and service levels.
- Streamlining and shortening supply chains.
- Disciplined grading and quality assurance (QA) systems.
- Packaging that delivers convenience and shelf presence.
- Branding and labelling that tells the product story in a manner responsive to local cultures and consumer preferences.
- Product integrity and traceability systems.
- High customer service levels.
- More collaboration and strategic alliances that enable smarter business models.
- Improved skill sets in branding, packaging and marketing.
- Products that respond more directly to specific consumer needs in each market.

FIGURE 3: KEY TARGETS

METRIC	TARGET
TOTAL EXPORT TONNES	310,000 tonnes (40 per cent increase)
TOTAL EXPORT VALUE	\$315 million (approximately 40 per cent increase)
PRODUCT INNOVATION	Successful new products launched
NEW EXPORTERS	Successful new exporters actively trading
MARKET ACCESS	New markets opened

MEASURING SUCCESS

The *Vegetable Industry Export Strategy 2020* has been developed to assist Australia's vegetable growers, and the whole industry, to build on recent success to establish the Australian industry as a recognised, reliable export partner.

The *Vegetable Industry Export Strategy 2020*, and the targets outlined in the strategy itself, will be assessed against a range

HOW CAN I GET INVOLVED?

Vegetable levy paying growers can access the following export development services currently being delivered by AUSVEG.

Growers not exporting

- Export training programs.
- Export readiness information and resources.
- Advice and assistance on how to begin exporting.

Growers currently exporting

- Trade missions to export markets.
- Annual Reverse Trade Mission.
- Connecting with foreign buyers.
- Advice and assistance on market development and market access.

For more information or to obtain a copy of the *Vegetable Industry Export Strategy 2020*, contact the AUSVEG Export Development team on 03 9882 0277 or email export@ausveg.com.au.

of Key Performance Indicators (KPIs), throughout the life of the strategy and at its conclusion in 2020.

Furthermore, the export success that individual growers achieve for their own businesses over the coming years will demonstrate real value to those growers from the industry's investment in growing Australia's vegetable exports.

Figure 3 highlights a number of the headline targets that will define industry success by 2020.

THE FINAL WORD

The prospects for Australian vegetable exports are more optimistic than they have been for the last 20 years. Provided the AUD stays below US 80 cents and with the right trade development strategy, there is no reason why Australia could not double its current vegetable exports within 10 years. However, success in this endeavour will require a change in industry culture, moving from the opportunistic concept of trade to one where export is treated as a critical long-term channel to market.

R&D ■ Market & Value Chain Development

INFO

The *Vegetable Industry Export Strategy 2020* has been funded by Horticulture Innovation Australia Limited using levies from the vegetable, potato and onion industries and funds from the Australian Government.

Project number: VG15052



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BEES AND BIOSECURITY

Australia is free from many serious honey bee pests that damage the health of honey bees overseas. Exotic pests such as Varroa, Tropilaelaps or Tracheal mites are a constant threat in Europe.

As bees play a major role as natural pollinators of many common vegetable crops, it is important to the vegetable industry that this remains the case.

“As bad as these pests would be, their impact will be even worse if bee pests and diseases that are already in Australia – like American or European foulbrood and Small hive beetle – are not being controlled,” Plant Health Australia National Manager for Horticultural Cropping Alison Saunders said.

To deal with these concerns, the Australian Honey Bee Industry Council (AHBIC) has developed the National Honey Bee Industry Biosecurity Code of Practice.

“The parts of the Code are there to minimise the impact of pests and diseases, and to make sure the honey bees of Australia are as healthy as they possibly can be,” Ms Saunders said.

The national Honey Bee Industry Biosecurity Code of Practice is available at farmbiosecurity.com.au/bee-biosecurity-code-of-practice.

FURTHER INFORMATION

The Beeaware program has also released a series of ‘Bee Biosecurity’ videos to let industry know how honey bees are contributing to biosecurity practices in Australia. Included in the video series are topics such as a hypothetical Varroa incursion in Australia and what it might mean for beekeepers and crop producers.

For example, one video details the range of effects Varroa destructor mite has on honey bees, such as reducing the survival of infected bees, causing deformities to adults, reducing colony production and ultimately contributing to the death of the bee population.

There is also a video detailing chemical control of Varroa mite. If Varroa destructor mite arrives in Australia, it will be the last major beekeeping country to get the mite. Several chemicals are permitted for use in Australia, but currently only in an emergency response, such as when Varroa first arrives.

These videos contain vital information that can help industry to prepare better for a potential incursion. For more information, please visit beeaware.org.au.

ENVIROVEG AND FRESHCARE SIGN LETTER OF INTENT FOR MOU

The Australian vegetable industry’s environmental best practice program, EnviroVeg, has signed an agreement with the fresh produce industry’s on-farm assurance program, Freshcare.

The letter of intent for a Memorandum of Understanding (MoU) provides the framework to align the certification requirements of the EnviroVeg Platinum program with the standards for Freshcare Environmental. This will give vegetable growers a clearer process to environmental certification, underpinned by the largest accredited Australian assurance program for fresh produce.

PROJECT DIRECTION

As a vegetable levy-funded project, EnviroVeg has recently developed a future strategy to ensure that the program develops

in the best interests of growers through extensive industry consultation. This strategy will be used to inform the direction of EnviroVeg as the current project reaches its conclusion.

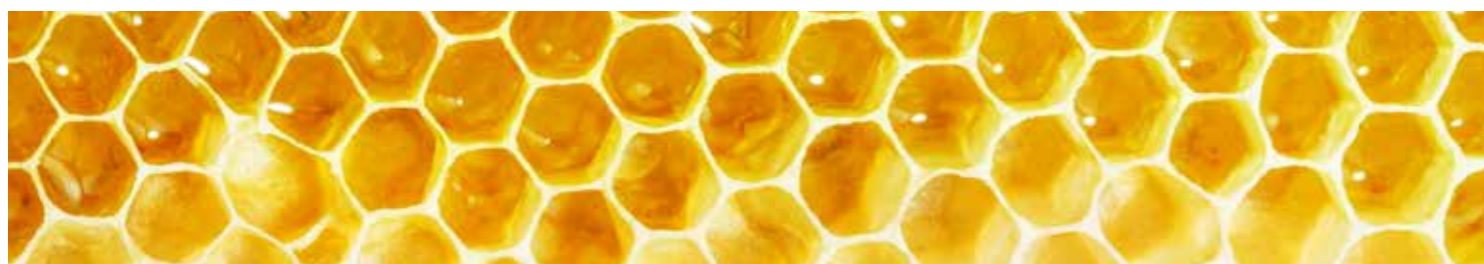
R&D ■ Farm Productivity, Resource Use & Management

INFO

For further information, please contact AUSVEG Environment Coordinator Andrew Shaw on 03 9882 0277 or email andrew.shaw@ausveg.com.au.

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

Project Number: VG12008



INCREASING EFFICIENCIES IN VEGETABLE CROPS

Ensuring a growing operation is running as smoothly as possible is one of the most important priorities for vegetable growers. Bayer outlines several key considerations that growers can take into account to increase efficiencies in their businesses.

When all aspects of a growing operation are running at their full potential, vegetable growers can experience a range of benefits, namely the ability to achieve the highest level of productivity possible. Growers can achieve this through a variety of methods, including effective water management and selecting the right equipment.

WATER USAGE

The agriculture industry is a large consumer of the world’s freshwater resources, given its heavy reliance on irrigation. The increasing demand for water, as well as environmental concerns, means that improving efficiency within agricultural irrigation is an incredibly important issue.

Multiple research projects into irrigation have been undertaken, particularly in the horticulture sector, and the importance of such research is increasing as the industry strives to maximise its productivity.

The vegetable sector is one of the most efficient when it comes to water use within the agriculture industry and it has considerably improved over the last decade. Despite this, many improvements could still be made. There are multiple methods that growers can employ to ensure that they are only using water when and where it is needed, to both reduce the demand on water and the impact on the environment.

By calculating the required water usage for their crops and selecting the most appropriate tools and monitoring conditions within the crops, growers can not only reduce their water usage and impact on the environment, but also ensure their crops thrive, and produce the best yields possible.

SPRAY NOZZLE SELECTION

The right selection of tools can ensure your sprays are working at their best, and that your crops are adequately protected. Nozzles are the most important aspect of a sprayer, and by selecting the appropriate nozzle, you can ensure both maximum efficiency and reliability.

In selecting nozzles:

- Select the appropriate nozzle for a particular task based on the indication, the required spray volume and environmental conditions.
- Use nozzles of the same uniformity on a spray boom, with the same or similar manufacturer, type, spray angle and size.

- Guarantee uniform nozzle distance (Bayer recommends 50 centimetres for 110 degree nozzles).
- Avoid the spray pattern making contact with tubes or other parts of the sprayer.
- Check homogeneity of the spray pattern.

Once a spraying operation is completed, it is essential to thoroughly clean the sprayer equipment – including the nozzles, with the correct brushes to avoid damage to the nozzle orifice.

PROTECTING CROPS

When sowing pesticide-treated seeds with air-assisted planters that vent into the air, there is a risk that chemical dust may be released into the environment, potentially threatening pollinating insects such as bees. In light of this, Bayer researchers in Austria have assisted in the development of a new technology that allows growers to protect their crops and simultaneously protect the environment, including pollinating insects.

The AirWasher uses water droplets to remove 97 per cent of chemical dust particles from the outlet air of planters. It reduces the emissions of chemical dust, which can be harmful to beneficial, pollinating insects.

The AirWasher can be fitted to deflectors currently in use on planters in the EU, ensuring even less chemical dust is released into the environment. By ensuring the health of pollinating insects and the general environment of a growing area, growers can further maximise the efficiency of their crops.

By implementing simple changes into their farming practices, growers can ensure their crops thrive and that their entire growing operations remain as efficient as possible.

R&D ■ Farm Productivity, Resource Use & Management

INFO

For more information, please visit bayer.com.au.

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

Project Number: VG12008



LEGACY OF THE LAND: ENVIRONMENTAL MANAGEMENT FOR THE NEXT GENERATION

Matt Ryan has fostered a love of the land into a rewarding career, running a mixed farming business with his wife Tricia in northern Tasmania. Matt speaks to AUSVEG Environment Coordinator Andrew Shaw about the changes he has witnessed over the years as a vegetable grower, embracing on- and off-farm challenges and the importance of sustainability.

Matt Ryan never particularly intended to pursue a career in vegetable production, but upon leaving agriculture college, he found his first full-time job as a field officer for vegetable producers Harvest Moon. In 1999, he and his wife Tricia started their own farm and have been growing ever since.

Now the mixed farm includes broiler (chicken) production, livestock, pyrethrum, poppies, vegetables including potatoes, onions, carrots and beans, for both processed and fresh markets and covers around 540 hectares of land around the major vegetable production region of north-west Tasmania. This is in addition to managing an agricultural contracting and transportation business which focuses on services to the vegetable industry.

"I do not come from a family farm – I was introduced to farming at an early age and wanted to pursue agriculture in general. It chose me and from there I extended to the vegetable industry," Matt says.

"I really enjoy cropping and vegetable growing, which is why I have continued to pursue it. The thing about vegetables is there are lots of different dynamics and lots of different things happening all the time. As the season changes, so does your job."

This mantra exemplifies an attitude of genuine appreciation for the career that Matt has developed. It has also led to work on behalf of the industry through various roles at the Tasmanian Farmers and Graziers Association (TFGA), where he is a director and vice chair of the organisation.

FACING CHALLENGES

Matt's personality is one that relishes a challenge, and while he understands the nature of vegetable production will always be shifting, some changes are more welcome than others.

In particular, the past year in Tasmania provided difficult production conditions for growers across the state, including drought, prolonged wet conditions and periods of heavy rain and flooding.

"We went through the driest period we have had in my time, from August 2015 to January 2016, but the primary issue was the six inches of rain at the end of January when we were almost ready for harvest. It resulted in significant losses across many different crops," Matt says.

"The damage from heavy rainfall and flooding during winter and spring has been significant, and that goes to show why it is important to have ground cover and produce growing in the ground all the time, because it just makes a big mess when you get a big rain. Large amounts of farmer's topsoil in the region ended up being shifted into Bass Strait or the estuaries."

Recovery has been facilitated in the region through a lot of hard work, and the ground stayed wet where cover cropping and remedial soil practices would normally be implemented. Topsoil has been physically carted onto some paddocks to repair the damage. This only strengthened Matt's belief that caring for the land comes first.

"We are all users of the environment and we are only here for a visit, the whole lot of us. I have children and it is important that these resources are there in the future – we are acutely conscious of that," he says.

"That process is ongoing in the back of your head all the time, particularly when there are floods. You think about how you don't want to damage our land or our waterways and the effect that this has on our environment."

APPRECIATING THE LAND

Many on-farm practices have developed and changed since Matt started growing in 2000. In establishing which practices are best for his business, the Tasmanian grower has prioritised his production requirements and emphasised a value to his time.

"GPS technology is the biggest thing that has changed. Investment in irrigation and irrigation technology gives you the best bang for your buck in terms of return on investment, improving your productivity and also improving your work-life balance and livelihood," Matt says.

"Variable rate technology is not going to save you if it won't stop raining, but it is going to save you on your water inputs, and you get better quality out of the ground in a normal, or dry season. There is the ability to tailor more water on the dry areas and less on the wet, and that makes a huge difference. The next step for the industry to adopt is variable rate fertiliser inputs."

He describes the major production drivers as being the need to diversify, reduce risk profile and offset your requirements of the land. To achieve this, Matt uses inputs such as cover crops and chicken manure to balance out his soil profile.

"We use our own chicken litter on our farm, which has been quite beneficial for us. The soil that we grow on and the chicken litter from the poultry side of the operation complement each other, which is primarily used for potato production. We try and get cover on our ground after our crops to look after the soil and make sure we aren't flogging the ground all the time," he says.

"At the end of the day, as farmers and growers, we are resources managers. Our business is to leave the environment as well as we can for the next generation because we have only got one of this

land. There isn't any more soil, land and water resources being made – we are all acutely aware of that these days."

While striving towards a better environment drives him personally, Matt understands the need for compliance is an external pressure to his business. As an EnviroVeg member, he believes accreditation is necessary as businesses are being incrementally more scrutinised.

"Compliance is driven down the supply chain, by retailers and consumers. The value of Australian vegetables is in their health benefits and because they are produced under great conditions. I think that we, as an industry, could do a better job of promoting that."

A BRIGHT FUTURE

Despite the large and often complex challenges, Matt remains positive about the future of the Australian vegetable industry.

"There are exciting things happening in the industry at the moment. We can compete internationally with our products with the dollar at a more realistic level, and finding a home for product overseas means it stabilises the price in the domestic market so that's got to be good."

"In general, agriculture and horticulture is a fantastic place to work and one of the best jobs or career paths anyone can choose. There are so many different places it can take you. The job is always changing, it's never boring and you're not often doing the same thing twice. We need to promote this choice to young people, and get them involved."

R&D

Farm Productivity, Resource Use & Management

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

Project Number: VG12008

EnviroVeg Horticulture Innovation Australia



POTENTIAL FOR VEGETABLE PRODUCTION IN THE GOULBURN MURRAY IRRIGATION DISTRICT

Located 180 kilometres north-east of Melbourne, the Shepparton region has long been a leading producer of fruit and dairy. However, with the upgrade of road networks and transportation, a good supply of water and a variety of horticultural services already established, the area is prime to become Australia's next vegetable bowl. Committee for Greater Shepparton CEO Sam Birrell explains.

Climate, soil suitability and the logistics of transporting perishable produce to large population centres in good condition are factors that must be taken into consideration when establishing a vegetable growing region. Access to good quality and affordable water is also key.

Several of these factors are changing in their nature and, as road networks improve and large tracts of land are opening for different kinds of agriculture, there is an opportunity for vegetable production to move to the north of Victoria.

GOULBURN MURRAY IRRIGATION DISTRICT

The Goulburn Murray Irrigation District (GMID) has long been the heart of Australia's fruit and dairy production. It is home to one of the world's largest gravity-fed irrigation schemes, with its network of channels delivering water to farms over a 9,950-square kilometre area. At the heart of the GMID is the city of Greater Shepparton, which has a population of 66,000 and is home to many food manufacturing facilities, including SPC Ardmona and Campbell's Soup.

Fruit production around the Shepparton region has transitioned over recent years. Orchards traditionally grew fruit for processing and fruit for the fresh market, in roughly equal proportions. As consumer trends have changed, the focus is far more on fresh varieties. Many processing orchards have been pulled out and replanted with high density, modern-style orchards which have a far higher yield per hectare than the older-style orchards. What this means is that while the production of fruit in the Shepparton region is increasing, the land use by orchards is generally not.

PRODUCTION SHIFT

The main vegetable production in the GMID has traditionally been tomatoes (fresh and processing). This has reduced in recent years with a higher proportion of fresh tomatoes coming from protected

cropping. Increasingly, zucchinis, capsicums and more recently broccoli have been grown successfully on land near Shepparton that was previously processing pear orchards. These crops are proving to be well-suited to the sandy loam soils of the region.

It is becoming more difficult to grow vegetables in the peri-urban fringes of major capital cities. Housing developments are getting closer and closer to the farms, and the issues around co-existence of agriculture and people, such as spray drift, are becoming more apparent. With improved road networks, the trend must surely be to move large-scale vegetable production out of these peri-urban areas, to established irrigated agricultural areas.

OPPORTUNITY FOR GROWTH

The Committee for Greater Shepparton sees great opportunities for the GMID to become one of Australia's premier vegetable growing areas. There is abundant land, and water is in good supply and accessible via the upgraded GMID Connections project. With the new Nagambie bypass, the Melbourne Market in Epping is only a 1.5-hour drive from Shepparton. The town and its surrounds are already set up for horticulture, with services such as chemical and fertiliser retailers, irrigation suppliers, machinery outlets and agronomists already in the region.

The leadership of the GMID is very proactive in attracting vegetable production to the region, and government agencies have an obliging attitude to potential investors.

INFO
For more information, please visit c4gs.com.au.



INDUSTRY IN THE MEDIA

AUSVEG reached a cumulative national audience of 1,961,850 in December, with 496 media reports mentioning AUSVEG across print and broadcast outlets.

On 9 December 2016, AUSVEG announced the appointment of James Whiteside as its new CEO. Mr Whiteside appeared extensively in the media discussing his background in agribusiness and his plans for the future of the organisation. AUSVEG Chairman Geoff Moar also appeared on broadcast media welcoming the appointment.

INDUSTRY ADVOCACY

AUSVEG appeared extensively in the media during the ongoing "backpacker tax" debate. Following the announcement of the Federal Government's compromise deal with the Australian Greens, AUSVEG National Manager – Public Affairs Jordan Brooke-Barnett appeared widely on radio welcoming the 15 per cent tax rate. He noted the industry was glad a decision had been reached, while also condemning the drawn-out political negotiations leading to the compromise. He said that AUSVEG will be watching the situation closely to monitor if growers experience labour shortages.

In other agri-political news, AUSVEG National Manager – Communications Shaun Lindhe appeared on radio calling for reform to the labour hire sector to stamp out the mistreatment and exploitation of workers in the vegetable industry. Mr Lindhe also discussed AUSVEG's proposal for labour hire firm registration.

VEG CONSUMPTION

With Australian children's consumption of vegetables sitting below the daily recommended servings from the Australian Dietary Guidelines, Horticulture Innovation Australia commissioned CSIRO to create a vegetable education resource for use in schools that aims to increase children's willingness to eat vegetables. Mr Lindhe said the kit contains a range of different activities and educational techniques to connect with children at each stage of their learning.

The latest findings from Project Harvest consumer research were also publicised, with AUSVEG spokesperson Jarrod Strauch discussing the ongoing eagerness for Australians to move beyond traditional cooking styles. Mr Strauch said Chinese, Thai and Indian cuisines are among the most popular options for consumers looking to expand their cooking repertoire in the coming year.

R&D Drive Train

INFO

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

Project Number: VG15027

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SENSITIVITY OF AUSTRALIAN VEGETABLE TRADE TO THE EXCHANGE RATE

A flexible, market-determined exchange rate has played a significant role in Australia achieving its 25th year of robust economic growth, as it has helped to rebalance the economy following economic shocks and assists trade. AUSVEG Economist Dominic Regan explains how the exchange rate determines trade volumes and prices, and the effects it has on the vegetable industry.

The exchange rate plays an important role in determining the quantity and prices of Australia's exports and imports, including vegetables. A depreciation of the Australian dollar raises the relative price of imported goods in domestic markets and reduces the price paid for our exports in foreign currency.

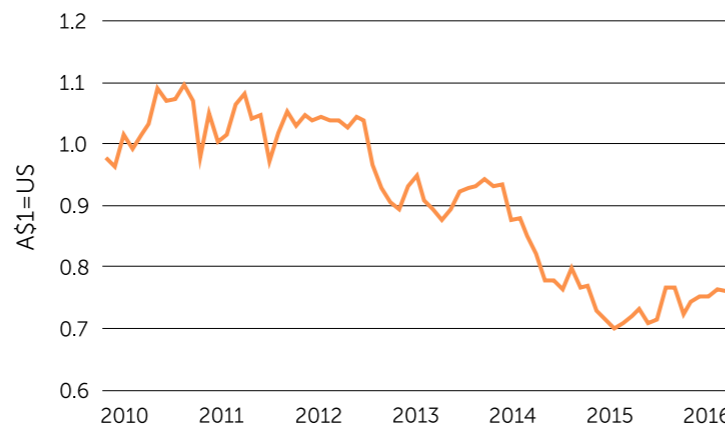
This leads importers to substitute domestically-sourced produce in place of the costlier, imported stock. At the same time, Australia's exports become cheaper in foreign currency terms, resulting in an increase in exports.

The time taken for the exchange rate movement to flow through to the traded sector – the lag – depends on the pricing structures in the particular market. For instance, it may take time for older contracts to expire before markets fully reflect the new price paradigm.

The Reserve Bank of Australia (RBA) pays keen attention to the impact of the exchange rate on the economy more broadly, and on trade flows in particular. Modelling by the RBA suggests that, in aggregate, a 10 per cent depreciation in the value of the dollar leads to an estimated three per cent increase in exports and a four per cent decline in imports in volume terms, with a lag of around two years. This in turn increases the contribution of trade (net

exports) to Gross Domestic Product (GDP) by around 1.5 percentage points (AUSVEG will conduct its own modelling of the response of vegetable trade to exchange rate movements in early 2017).

FIGURE 1: AUS/US EXCHANGE RATE



Source: RBA, Exchange rate statistics, Nov 30, 2016.

AN IMPORTANT ADJUSTMENT MECHANISM

Movements in the exchange rate play an important role in assisting the economy to adjust to structural changes without leading to inflation and wages outbreaks across the economy – the so-called boom-bust cycle of decades past.

For instance, very high demand for Australia's mining commodities over the latter part of the 2000s and early 2010s resulted in the exchange rate rising significantly. This saw demand in the non-mining traded sectors of the economy shift towards imports, freeing up labour and capital from the least productive, least profitable firms towards the expanding mining sectors.

While all growers have felt these pressures, those who responded by reining in costs, investing in new plant and equipment and improving labour practices should see benefits to their bottom lines beginning to appear.

Since the Australian dollar was 'floated' in 1983, it is markets that determine the rate at which one Australian dollar can be exchanged for one unit of a foreign currency. In any one day, trillions of dollars of trade can occur in buying and selling the Australian and other currencies, more than our annual GDP. The Australian dollar is among the top 10 most traded currencies globally.

DRIVERS OF THE EXCHANGE RATE

Along with the Canadian and New Zealand dollars, Australia's dollar is referred to as a commodity currency, since it moves very closely with changes in the prices we receive for our bulk commodities. Higher prices for coal and iron ore, all else being equal, result in greater demand for the Australian dollar and an appreciation in the exchange rate.

Another factor affecting the dollar is the interest rates that foreign investors can expect to receive if they place their money in Australia. If the domestic interest rate, as set by the RBA, is greater than that which an investor could receive in a foreign country, they have the incentive to move their money into Australian dollars to achieve that

higher return on their capital. This creates higher demand for the Australian dollar and the exchange rate appreciates.

Currency markets are currently anticipating US authorities to begin lifting their interest rates following several years at near zero and this is expected to result in further downward pressure on the Australian dollar over the coming year, supporting exports and limiting imports.

OTHER FACTORS TO CONSIDER

Of course a number of other developments, both domestically and internationally, can drive the exchange rate higher or lower in any given year. A weakening outlook for the domestic economy (such as an unexpected rise in unemployment), could signal to markets that interest rates are likely to remain low for an extended period and this will result in a lower dollar. The opposite is also true.

Thus, the exchange rate can be viewed as a proxy for the overall health of the economy. A healthy domestic economy in a "normal" world should see the dollar trading around 70 cents. However, with anti-trade views taking hold all around the globe, "normal" is not a word I'd use to describe the global economy over the next few years. We could be in for a rocky ride.

R&D Drive Train

INFO

For more information, please contact AUSVEG Economist Dominic Regan on 03 9882 0277 or email dominic.regan@ausveg.com.au.

The Economist Sub-Program is a component of the Vegetable Industry Communication Program and has been funded by Horticulture Innovation Australia Limited using the National Vegetable Levy and funds from the Australian Government.

Project Number: VG15027

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Photography by Envy Photography.



FROM CROATIA TO AUSTRALIA: THE JOURNEY OF THE IVANKOVICH FAMILY

Ivankovich Farms is a major carrot export operation based in Myalup, south of Perth. A fourth generation Australian grower, Anthony Ivankovich spoke to Michelle De'Lisle about his family history, the challenges he faces both on- and off-farm and the goals achieved so far.

It's a long way from Bogomolje, Croatia to the south-east corner of Western Australia. Just ask Peter and Anthony Ivankovich – the father and son duo have continued their family's farming legacy, which started over 14,000 kilometres away on the Croatian island of Hvar.

The pair run Ivankovich Farms, a carrot, onion and potato growing and packaging operation tucked away in Myalup, approximately 140 kilometres south of Perth.

The carrot crops are all grown for export, with the majority sent to the Middle East including Dubai, Saudi Arabia, Qatar and Yemen.

FAMILY HISTORY

Both Peter and Anthony were born in Australia. Anthony's great-grandfather Ivan migrated to Australia from Croatia in 1926, with his wife and children making the journey 10 years later. Initially, Ivan was a timber cutter for the water pumping stations on the pipeline to Kalgoorlie before he purchased land in Spearwood, Western Australia. Ivankovich Farms was later established in Spearwood in the 1950s before relocating to Myalup in the mid-1990s.

Last year, Anthony travelled to Europe where he went back to his roots – visiting Croatia was an eye-opening experience for the 39-year-old.

"We went to the place where my family actually started from,

which was on the island of Hvar and a little town called Bogomolje. Things have not changed much since my great grandfather left, looking at it," Anthony says.

"It really was beautiful, but the way they farmed there – it was just rock. They were trying to scavenge to find a bit of sand to plant something in, and they're still doing it. Nothing's changed except they've got cars now instead of donkeys."

Peter and Anthony still have family members living on the island of Hvar. Anthony reflected on the different growing practices between Australia and Croatia in the early days.

"When you say 'grow' over there, they might have had five metres by five metres of spuds; they might have had a few onions and a bit of this and that. I think the main crop was lavender, along with olives and wine grapes were grown over there back then too," Anthony says.

"It was a bartering system back then, more so than growing bulk to supply towns. They would have grown just to survive."

A CONTINUING DYNASTY

Like many growers, Anthony couldn't see himself in any other industry and it was those strong family ties that made up his mind for him, 23 years ago.

"I had ambitions of getting an apprenticeship in mechanics, or

joining the defence force when I finished high school, but my mother got pretty sick when I finished high school and passed away. I was 17. I hung around the farm a bit more to help Dad out – I didn't want to just leave him and work somewhere while the family was under that kind of pressure."

Anthony oversees the entire operation, with Peter and Anthony's wife Vanessa looking after the administration. There are currently 26 employees working at Ivankovich Farms, including 18 backpackers. Three full-time operators are located on the farm site and four full-time employees control/manage the packing sheds.

GROWER CHALLENGES

There are a number of challenges the growers face, both on- and off-farm. After a long pause for thought, Anthony outlined the main issues he is currently dealing with.

"The main one would be a lot of the red tape that we're dealing with at the moment, whether it's trying to acquire more land, improving infrastructure on-farm or general running," he says.

The future of water management is also on the agenda for Anthony and Ivankovich Farms.

"We've got water but the issue would be people managing their water in the area. My dad has always been of the belief that we have bores topping up the dams – we don't solely rely on just one water hole, so we'll spread the load out over the whole property and we'll have bores placed around it so you're not getting too much drawdown in one area," Anthony says.

"When he first set the bores up that way years ago, people thought it wasn't necessary and an extra cost. But if you actually have a look at a current graph now of the salinity problems in the area, you'll see our farms are the little green dots in the area. Our salinity hasn't gone up a lot over the years; it's gone up slightly, which it will, but nowhere near as much as some of the other places around. Water management is critical for sustainability in this industry."

GETTING EXPORT READY

Ivankovich Farms started exporting carrots eight years ago and within three years, its production line outgrew the shed so Anthony and his team were forced to upgrade.

"It took about 18 months to plan the new shed, the wash line, the packing lines and the robotics to achieve the tonnage that we wanted, while trying to keep the work-rate down. I don't want people working weekends or two shifts and we don't run late, everything must operate on time all the time," Anthony says.

"We definitely look after workers in the area of machinery that they're using and the timeframe of their hours."

ACHIEVING GOALS

Ivankovich Farms is a self-sufficient operation, however there is always room for growth. Anthony has an eye on increasing his volume of production and therefore increasing the carrot production for export. Acquiring more good quality land is also on the list of goals.

Nevertheless, there is plenty to be proud of, particularly in terms of farm growth over the past eight years.

"Everything we've developed, we've done on our own as far as how we want the place to operate, what we want to do, how our machines operate and what they can achieve in a shift," Anthony says.

"I enjoy sitting there, working stuff out and calculating everything down to the cent – whether that's the general running costs, downtime costs, harvesting costs and machine design, operation and layout. The sheds are set up so that everything has a contingency plan, so if something breaks down we can keep moving or switch lines or wash lines. We have two wash lines incorporated into one for that reason.

"I enjoy the challenge of what we're doing, whether it's producing and packing, and staying on top of that – trying to chase the best money you can get for your product and trying to do the best job. We don't want to be the biggest, but we will be the best at what we do."

MINOR USE PERMITS

PERMIT NUMBER	CROP	PESTICIDE GROUP	ACTIVE	PEST/ PLANT DISEASE/ TARGET WEED	DATE ISSUED	EXPIRY DATE	PERMIT HOLDER	STATES
PER13441 VERSION 2	Rhubarb	Insecticide	Permethrin	Green peach aphid (suppression only) Green looper, Light brown apple moth and Native budworm.	11-Apr-12	31-Mar-27	Horticulture Innovation Australia Limited	ACT, NSW, QLD, SA, TAS, NT and WA only
PER14351 VERSION 3	Lettuce (Protected-i.e. Greenhouse & hydroponic only)	n/a	Petroleum	Leafhoppers, Green vegetable bug, Grey cluster bug, Rutherglen bug and Green mirid.	1-Jul-16	31-Mar-21	Horticulture Innovation Australia Limited	All states (except VIC)
PER13154 VERSION 2	Brassica leafy vegetables	Herbicide	S-Metolachlor	Selected Broadleaf and Grass weeds (as per label for Brassicas).	20-Feb-12	31-Mar-22	Horticulture Innovation Australia Limited	All states
PER13114 VERSION 2	Celery	Herbicide	Prometryn	Weeds as per approved product label for carrots and celery.	29-Mar-12	31-Mar-22	Horticulture Innovation Australia Limited	All states (except VIC)

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

CALENDAR

2-14 FEBRUARY 2017: USA INDUSTRY LEADERSHIP AND DEVELOPMENT MISSION

Where: United States

What: During this mission to the United States, a group of vegetable growers will attend the World Ag Expo in California, the largest annual agriculture exhibition in the world. Over two weeks, participants will also visit some of the best farms and produce markets in the country and meet leading growers in the industry.

Further information: Please contact AUSVEG on 03 9882 0277 or email info@ausveg.com.au.

4-11 FEBRUARY 2017: EUROPEAN INDUSTRY LEADERSHIP AND DEVELOPMENT MISSION

Where: Germany

What: A delegation of growers will be taken to the 2017 Berlin Fruit Logistica Trade Fair, which hosts over 2,000 exhibitors and is the leading international meeting place for the fresh produce industry. Growers will also have the chance to visit the global headquarters of a world-leading agribusiness.

Further information: Please contact AUSVEG on 03 9882 0277 or email info@ausveg.com.au.

7 FEBRUARY AND 22 FEBRUARY 2017: SOIL WEALTH AND INTEGRATED CROP PROTECTION WEBINARS

Where: Online

What: A series of webinars are run by Applied Horticultural Research and RMCG for the Soil Wealth and Integrated Crop Protection projects. There are two upcoming webinars: Nutrition management and plant disease featuring vegetable pathologist Dr Len Tesoriero (7 February) and Effect of pesticides on beneficial insects with Dr Paul Horne (22 February).

Further information: Please visit soilwealth.com.au/events.

15-17 MAY 2017: HORT CONNECTIONS

Where: Adelaide Convention Centre, South Australia

What: A joint initiative between AUSVEG and PMA Australia-New Zealand Limited (PMA A-NZ), Hort Connections will be co-hosted by Australian Organic, Onions Australia, Irrigation Australia and Potatoes SA. This premier event will deliver a world-class program and trade show to growers and whole-of-supply companies alike.

Further information: Please contact AUSVEG on 03 9882 0277 or email info@ausveg.com.au.



HORT CONNECTIONS

15-17 May 2017

Adelaide Convention Centre

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AUSVEG

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IRRIGATION
AUSTRALIA





BREAKDOWN OF LEVY PROJECTS 2016-17

FARM PRODUCTIVITY, RESOURCE USE & MANAGEMENT

PROJECT NUMBER	PROJECT TITLE	SERVICE PROVIDER
MT12011	National honey bee pest surveillance program	Plant Health Australia Limited
MT13059	SITplus: Developing and optimising production of a male-only, temperature-sensitive-lethal, strain of Qfly, <i>B. tryoni</i>	South Australian Research and Development Institute (SARDI)
MT14055	Driving Collaboration in Australian Horticultural Research	Flourish Communications
VG10081	Breeding Capsicum for Tospovirus Resistance	The Department of Agriculture and Fisheries (DAF)
VG12008	EnviroVeg Program for promoting environmental best practice in the Australian vegetable industry	AUSVEG Ltd
VG12109	Management of insecticide resistance in the green peach aphid	cesar pty ltd
VG12114	Minor use permit management for the vegetable industry	Growcom Australia
VG13004	Innovating new virus diagnostics and planting bed management in the Australian Sweetpotato Industry	Australian Sweetpotato Growers Inc
VG13041	New in-field treatment solutions to control Fruit Fly (1)	The Department of Agriculture and Fisheries (DAF)
VG13042	New in-field treatment solutions to control Fruit Fly (2)	Applied Horticultural Research Pty Ltd
VG13043	New end-point treatment solutions to control Fruit Fly (1)	NSW Department of Primary Industries, an office of Department of Industry
VG13044	New end-point treatment solutions to control Fruit Fly (2)	The Department of Agriculture and Fisheries (DAF)
VG13092	Improved skill for regional climate in the ACCESS-based POAMA model	Bureau of Meteorology
VG13096	Minor Use and Agronomy Coordinator – Minor Use Priorities and Awareness Program	Scholefield Robinson Horticultural Services Pty Ltd
VG13101	Effective management of parsley summer root rot	NSW Department of Primary Industries, an office of Department of Industry
VG13111	Manipulation of regulatory microRNAs to suppress insecticide resistance in diamondback moth	The University of Queensland
VG13113	Evaluation of automation and robotics innovations: developing next generation vegetable production systems	The Department of Agriculture and Fisheries (DAF)
VG14010	Management and detection of bacterial leaf spot in capsicum and chilli crops	The Department of Agriculture and Fisheries (DAF)
VG14039	Generation of Residue Data for Pesticide Minor Use Permit Applications in Vegetable Crops 2014 – Eurofins	Eurofins Agrisearch
VG14048	Review of current irrigation technologies	Irrigation Australia Ltd
VG14063	Innovative Solutions to Management of Tospoviruses of Vegetable Crops	The University of Queensland
VG15002	Advanced stable fly management for vegetable producers	Western Australian Agriculture Authority (WAAA)
VG15003	Using autonomous systems to guide vegetable decision making on-farm	The University of Sydney
VG15008	Viruses of national importance to the vegetable industry	The Department of Agriculture and Fisheries (DAF)

PROJECT NUMBER	PROJECT TITLE	SERVICE PROVIDER
VG15009	Improved soilborne disease diagnostic capacity for the Australian Vegetable Industry	South Australian Research and Development Institute (SARDI)
VG15010	A multi-faceted approach to soilborne disease management	AHR Environmental Pty Ltd
VG15013	Improved management options for Cucumber green mottle mosaic virus	Department of Primary Industry and Fisheries, NT
VG15020	Strengthened Biosecurity for the Vegetable Industry - Phase 2	AUSVEG Ltd
VG15021	Sowing success through transformational technologies	The University of Queensland
VG15023	Consultancy Services for Strengthened Biosecurity for the Vegetable Industry – Phase 2	Kevin Clayton-Greene
VG15024	Vision systems, sensing and sensor networks to manage risks and increase productivity in vegetable production systems	The Department of Agriculture and Fisheries (DAF)
VG15025	Investigating labour supply options across the Australian Vegetable Industry	The University of Adelaide
VG15034	Facilitating adoption of IPM through a participatory approach with local advisors and industry – Training component	IPM Technologies Pty Ltd
VG15035	Facilitating adoption of IPM through a participatory approach with local advisors and industry – coordination component	AUSVEG SA
VG15036	Facilitating adoption of IPM through a participatory approach with local advisors and industry – evaluation component	Clear Horizon Consulting Pty Ltd
VG15037	Optimising the benefits of vermiculture in commercial-scale vegetable farms	Blue Environment Pty Ltd
VG15038	Investigating novel glass technologies and photovoltaics in protected cropping	Swinburne University of Technology
VG15039	Precision Seeding Benefits for Processing Pea Production	University of Tasmania
VG15051	Investigating on farm HACCP programs for managing plant pests of biosecurity concern – an options paper	Biosecurity Solutions Australia Pty Ltd
VG15054	Data Analytics and App Technology to Guide On-Farm Irrigation	The Yield Technology Solutions Pty Ltd
VG15059	Evaluating and testing autonomous systems developed in VG15003 in Australian vegetable production systems	The University of Sydney
VG15062	The Effects of Using Anhydrous Ammonia to Supply Nitrogen to Vegetable Crops	Applied Horticultural Research Pty Ltd
VG15064	Improved management of pumpkin brown etch	Applied Horticultural Research Pty Ltd
VG15065	Review of the National Biosecurity Plan for the Vegetable Industry	Plant Health Australia Limited
VG15073	Characterisation of a Carlavirus of French Bean	The Department of Agriculture and Fisheries (DAF)
VG16004	Developing technical guidelines and a best practice extension toolbox for greenhouse construction and safe operation	Osborn Consulting Engineers Pty Ltd



MARKET & VALUE CHAIN DEVELOPMENT

PROJECT NUMBER	PROJECT TITLE	SERVICE PROVIDER
MT14052	Essential Market Access Data Packages	The Department of Agriculture and Fisheries (DAF)
VG12083	Understanding the Nature, Origins, Volume and Values of Vegetable Imports	RMCG
VG13039	Remediation of soil contaminated by Salmonella enterica to expedite plant or replant of vegetables	University of Sydney – Faculty of Agriculture and Environment
VG13072	Export Opportunities for Carrots, Sweet Corn, Beans, Broccoli and Baby Leaf – Symposia	AUSVEG Ltd
VG13083	Identifying and sharing postharvest best practice on-farm and online	Applied Horticultural Research Pty Ltd
VG13097	Vegetable Industry Market Access and Development Program	AUSVEG Ltd
VG14062	Process improvements for preserving peak freshness in broccoli (Stage 2)	Applied Horticultural Research Pty Ltd
VG15016	Crisis Management Awareness for the Australian Vegetable Industry	Control Risks Group Pty Ltd
VG15052	Vegetable Industry Export Strategy	MCKINNA ET AL – Insight Outlook Consulting Pty Ltd as Trustee
VG15057	Feasibility study to collect and report wholesale market price information for the Australian vegetable industry	GHD Pty Ltd
VG15061	Sensitivity Study – Impact of increasing exports on the domestic vegetable market	Deloitte Access Economics Pty Ltd
VG15704	Grower study tour of New Zealand: Precision vegetable production	The Department of Agriculture and Fisheries (DAF)
VG16019	Removing barriers of food safety certification for vegetable exporters through GLOBALG.A.P. co-certification	Freshcare Ltd

CONSUMER ALIGNMENT

PROJECT NUMBER	PROJECT TITLE	SERVICE PROVIDER
VG12078	Consumer and market program for the vegetable industry	Colmar Brunton
VG12096	New Vegetable Products for Personal Nutrition	CSIRO Division of Animal, Food and Health Sciences
VG14060	Consumer and market program for the vegetable industry (Project Harvest) – Stage 2	Colmar Brunton
VG15005	Implementation Plan for Increasing Children's Vegetable Intake	CSIRO Food and Nutrition Flagship
VG15071	Understanding consumer triggers and barriers to consumption of Australian indigenous vegetables and Asian vegetables	Colmar Brunton

DRIVE TRAIN

PROJECT NUMBER	PROJECT TITLE	SERVICE PROVIDER
MT16006	Update of the Hi-Link model of Australian horticultural industries	Centre for International Economics
VG13076	Soil condition management – Extension and capacity building	Applied Horticultural Research Pty Ltd
VG13078	Extension of Integrated Crop Protection information	RMCG
VG14065	Nuffield Scholarship	Nuffield Australia Farming Scholars
VG15004	Regional capacity building to grow vegetable businesses - Bowen Gumlu and FNQ	Bowen Gumlu Growers Association Inc
VG15019	Demographic research for the vegetable industry – Phase 2	The Nielsen Company
VG15027	Vegetable Industry Communication Program 2016-2019	AUSVEG Ltd
VG15028	Vegetable Industry Education and Training Initiative	RMCG
VG15030	Growing Leaders 2015	Rural Training Initiatives
VG15032	2016 Global Innovations in Horticulture Seminar	AUSVEG Ltd
VG15040	Regional capacity building to grow vegetable businesses – Wide Bay Burnett (Bundaberg Fruit and Vegetable Growers)	Bundaberg Fruit and Vegetable Growers
VG15041	Regional capacity building to grow vegetable businesses – Lockyer Valley and SE Queensland (Lockyer Valley Growers Inc)	Lockyer Valley Growers Inc
VG15042	Regional capacity building to grow vegetable businesses – NSW (Local Land Services)	Greater Sydney Local Land Services
VG15043	Regional capacity building to grow vegetable businesses – WA (vegetablesWA)	Western Australia Vegetable Growers Association Inc trading as vegetablesWA
VG15044	Regional capacity building to grow vegetable businesses – NT (NT Farmers)	Northern Territory Farmers Association Inc
VG15045	Regional capacity building to grow vegetable businesses – SA	AUSVEG SA
VG15046	Regional capacity building to grow vegetable businesses – Tasmania	RMCG
VG15047	Regional capacity building to grow vegetable businesses – East Gippsland (East Gippsland Food Cluster)	East Gippsland Food Cluster Incorporated
VG15048	Regional capacity building to grow vegetable businesses – Victoria (South-East, West and Northern regions)	RMCG
VG15049	Regional capacity building to grow vegetable businesses – national coordination and linkage project	AHR Environmental Pty Ltd
VG15077	Financial Performance of Australian Vegetable Farms 2016-17 to 2018-19	Australian Bureau of Agricultural and Resource Economics and Sciences
VG15701	2016-18 European Industry Leadership and Development Mission – Berlin Fruit Logistica	AUSVEG Ltd
VG15702	USA Industry Leadership & Development Mission 2016-2018	AUSVEG Ltd
VG15703	Young Grower and Women's Industry Leadership and Development Missions 2016-2018	AUSVEG Ltd
VG13068	Financial Performance of Australian Vegetable Farms 2013-14 to 2015-16	Australian Bureau of Agricultural and Resource Economics and Sciences

AROUND THE STATES



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Freshcare is an industry owned on-farm Quality Assurance program which provides a practical way for fruit, vegetable and nut growers to demonstrate food safety and quality compliance and good land management credentials to customers and suppliers.

It is currently the largest Australian assurance program for fresh produce, providing food safety, quality and environmental certification services to more than 5,000 businesses nationally.

The Freshcare Codes of Practice describe the practices required on-farm to provide assurance that fresh produce is safe to eat, meets customer specifications and legislative requirements, and has been produced with care for the environment.

Freshcare recently upgraded its food safety and quality code to a fourth edition. The revised code brings Freshcare into line with the Global Food Safety Initiative (GFSI), an international program to ensure safe food production worldwide.

GFSI certification is already required for growers who supply directly to the supermarkets, Costco and Aldi. It is expected to become a likely requirement for the other major customer groups. Work being conducted by Freshcare will hopefully see Freshcare Food Safety Quality (FSQ) fully accredited under the GFSI by late 2017.

Freshcare will then be accepted as an internationally benchmarked standard around the world, similar to codes such as SQF (Safe Quality Food) and GlobalG.A.P. Exporting growers will have the option to simply use their Freshcare certification to demonstrate their safe food credentials overseas.

The program will also be accepted under the Harmonised Australian Retailer Produce Scheme (HARPS). This mandatory scheme, driven by Horticulture Innovation Australia and supported by the major retailers, will align fresh produce safety requirements and lower the cost to industry by reducing audit requirements.

The Freshcare audit system allows a business to monitor and proactively manage its product quality every year to meet customer and market access requirements. The program requirements are integrated into a farm's production and operating systems. Training course materials include template record-keeping documents and resource material so that when audit time arrives, there is no need for last-minute record updates.

From 1 January 2017, all audits conducted must be made against FSQ4.

As a trainer of Freshcare FSQ, Growcom is providing group training sessions in FSQ4 across Queensland. Growers will receive a printed copy of the FSQ4 manual to work through on the day and will be in a position to go to audit when required.

Growers wishing to participate in a Growcom-hosted Freshcare Food Safety (FSQ4) training session should fill in an expression of interest form online at growcom.com.au/freshcare.

Growcom will be in contact with growers to organise a suitable training day and time, once sufficient numbers for each location have registered.

For more information contact Growcom Land and Water Manager Scott Wallace on 07 4613 1066 or email swallace@growcom.com.au.



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Individually, the words "what" and "if" are two of the least threatening words it is possible to think of. Put together, however, with the addition of a question mark, and "What if?" can either haunt or inspire us.

On 25 November 2016, vegetablesWA hosted a second extremely successful Vegetable Industry Leaders Summit. Grower feedback has been overwhelming and I encourage every grower to put aside a few hours for a single late afternoon this year to better understand what is going on in the broader industry and to make the most of the key details for the success of grower businesses.

The Summit featured information about export opportunities for vegetable lines in various markets and was presented by Tim Morris at Coriolis through a successful vegetablesWA Royalties for Regions proposal.

Tim told us some pretty harsh but apparently pretty fair realities that, yes, WA is significantly underperforming in vegetable exports compared to our climatic peers, and there are huge opportunities to be had if we have the mindset and mettle to grasp them.

However, not every market is an opportunity despite the hype (China and India in particular); not every vegetable line will have the same opportunity because of different demands in these countries; and not every grower is going to be able to take advantage of these opportunities because you need a level of size and sophistication.

We also had some very useful presentations from Horticulture Innovation Australia-funded projects about domestic market trends from Nielsen and Colmar Brunton.

The summit was preceded by a tour targeted at younger growers with visits to David and Ben Ellement at Ellement Produce and to Sam Calameri at Baldviss Market Gardens, where they got to see a range of modern broadacre and greenhouse practices. Growers on the tour reported that one of the most powerful insights was that implementing new technology didn't just allow them to maximise profits but also allowed them to spend more time with family and friends.

And so I come back to my original proposition about "What if?"

If young growers are to take our industry forward into the future, should we be talking about new ideas not just because they will make more money, but because they might also provide a better lifestyle for growers with time outside the garden?

For example, given that evaporation-based irrigation/fertigation technology is already here, shouldn't we be talking about the fact that, yes, it makes you more money, but also that it might allow you to schedule, check or change your irrigation program while you're out fishing with the kids or catching up with friends? There are certainly some other good examples in WA of growers moving from working in the business rather than on the business.

Sometimes for things to stay the same, some things have to change. What if our industry doesn't? Let's be inspired by the opportunities rather than haunted by the past.

Please give our vegetablesWA staff a call for advice – we have expert staff on board to help you with production, marketing and business problems.



Brett Guthrey

NSW Farmers' Association
Horticulture Chair
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The New South Wales Department of Primary Industries (NSW DPI) has released the proposed regulations that will support the 2015 NSW Biosecurity Act for consultation. The regulations will underpin the objectives of the Act and will clarify the general biosecurity duty that encompasses all activities of individuals that may have a biosecurity impact.

The biosecurity regulations will be complemented with a biosecurity manual, which will outline the activities that an individual can take in relation to certain biosecurity pests and diseases. The manual will be gazetted to ensure that it is flexible and can accommodate changes to NSW biosecurity, including changes in the seriousness of a pest or disease, and new pests and diseases that require more formal arrangements.

NSW Farmers has been engaged with NSW DPI throughout the process and continues to collaborate with them to ensure the proposed regulations are understandable and will be effective in minimising biosecurity incidents. The top biosecurity matters for NSW Farmers members

continue to be cleaning up abandoned and neglected orchards and ensuring the owners or landholders have knowledge of their biosecurity responsibility.

NSW Farmers believes that there are three key factors that will help ensure the new Act and proposed regulations work: effective compliance, surveillance from both the public and DPI officers, and a wide-reaching informative education campaign.

NSW Farmers is relieved a decision around the backpacker tax has finally been reached. The tax rate of 15 per cent will end 18 months of uncertainty and NSW Farmers has felt it could not come soon enough.

NSW Farmers is pleased that common sense has prevailed and that the superannuation for backpackers has been lowered to 65 per cent. The new tax rate will be closely monitored to see its effect on backpacker numbers, though one thing is certain: Australia must remain competitive with other countries and continue to offer an attractive destination for working holiday makers.



Kurt Hermann

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The Victorian vegetable industry has been the subject of substantial media coverage following recent allegations of the mistreatment of labour on a number of Victorian farms.

AUSVEG VIC, in conjunction with the National Peak Industry Body, has strongly condemned the mistreatment or underpayment of any worker, domestic or foreign.

We urge all growers to ensure that all relevant workplace laws, regulations and awards are strictly adhered to.

AUSVEG VIC believes that the majority of Victorian growers operate their businesses ethically, and are being unfairly tarnished by the actions of rogue operators. As such, AUSVEG VIC believes that those who shirk the law and exploit workers need to be held responsible for their actions and stands firmly behind all growers who operate their businesses lawfully.

Growers who breach the law not only leave themselves open to prosecution, but also

cause significant harm to the broader industry's reputation, particularly among consumers. As such, AUSVEG VIC believes that those who exploit workers need to be held responsible for their actions.

In an effort to address rogue labour hire operators, AUSVEG VIC recently appeared before the *Victorian Enquiry into the Labour Hire Industry and Insecure Work* and called for reform of the labour hire industry.

Subsequently, the Victorian Government has announced its intention to introduce a licencing scheme for the Victorian labour hire industry. AUSVEG VIC will continue to monitor developments in this space and will ensure that the industry's views are given due consideration as this legislation is developed.

AUSVEG VIC will continue to support any reasonable measure that protects farm workers and the vast majority of growers who treat their workers fairly.



AROUND THE STATES



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AUSVEG SA is asking South Australian vegetable and potato growers to join us in the fight for water resources and a future for production on the Northern Adelaide Plains as part of our campaign to save South Australia's Food Bowl.

AUSVEG SA is coordinating a campaign on behalf of South Australian growers against an SA Water Plan to allocate an excess 20GL of waste water they have available on the Northern Adelaide Plains to a Spanish consortium instead of local growers. If the SA Government backs our growers with water, we will create the jobs and investment necessary to sustain Adelaide's north.

The background to this issue is that SA Water held a tender for the excess allocation and industry had thought that local businesses would get access to the water. AUSVEG SA understands from media reports that the Spanish consortium intends to use the entire 20GL allocation which would likely be used to build over 400 hectares of greenhouses.

The consortium and State Government are claiming that any excess production will be solely for export, but this is highly unlikely due to the fact 400 plus hectares of production would represent \$300 million plus of additional produce each year and the export market for greenhouse crops is currently less than \$10 million per annum.

AUSVEG SA sees this as an issue arising from insufficient industry consultation in the initial tender process and calls on SA Water to

significantly revise the proposal. That way we can conduct a feasibility study into a project which will create jobs without significant costs and loss of jobs for businesses who need the water. The problems for our industry include:

- Growers in the Northern Adelaide Plains are in desperate need of water now. Industry group AUSVEG SA has conducted investigations showing local growers could take up over 5GL of water, create over \$130 million in production and create over 500 jobs.
- This project represents a significant opportunity lost as businesses in the region won't be able to sustainably grow employment in the region.
- Rather than create net employment increases, the consortium is likely to offset any job increases with losses to employment in the Virginia region due to a glut of produce in domestic markets.

In response to this issue, AUSVEG SA has launched a campaign to fight the announcement, but needs all the growers of SA to help us send a clear message to the State Government to go back to the drawing board on this proposal.

Affected growers and community members are encouraged to make their own representations on this issue to state and federal politicians to ensure industry's concerns are heard.

Join us to Save Adelaide's Food Bowl and keep jobs and growth in Adelaide's North!



Wayne Johnston
Tasmanian Farmers and
Graziers Association
President
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2016 was a shocker for Tasmanian vegetable growers, and the testing conditions have continued regarding the preparation of ground and the sowing of most crops in all areas.

As previously discussed, extremely wet conditions resulted in a reduction of harvestable hectares in peas. Most growers commented that the cold snap in November added to slower than normal growth rates as well.

At the time of writing, potato planting was mostly complete after months of sitting idle, but again some crops were affected due to heavy rain soon after they hit the ground.

The pressure was really on onion growers in particular, especially with planting in late October and early November. In many cases plantings have either been delayed or missed altogether, which will result in less tonnes harvested.

Everyone is now hoping for a settled four or five months of weather so that later crops can mature and get harvested with a respectable yield, size and quality.

Optimism and professionalism in the industry remain high despite the challenges of 2016. The demand for Tasmanian product continues to grow and is reflected in the increasing amount of hectares and tonnes that are called for in our state. The years of working on the consumer to realise the value of buying Australian are starting

to have an impact. We have many natural growing advantages in our state and these will continue to ensure that the quality of our produce means that we are in a prime position to take advantage of this.

On another note, we welcomed the news that federal politicians finally reached an agreement on the controversial backpacker tax. It was pleasing to see that some groups and crossbench members finally found consensus with the Federal Government, but it was unfortunate that this issue has been used as a political football at the expense of Tasmanian farmers.

There are many lessons to be learned from this fiasco, and we will be looking to our Federal representatives in both the House of Representatives and Senate to act in the interests of Tasmanian agriculture in the future.

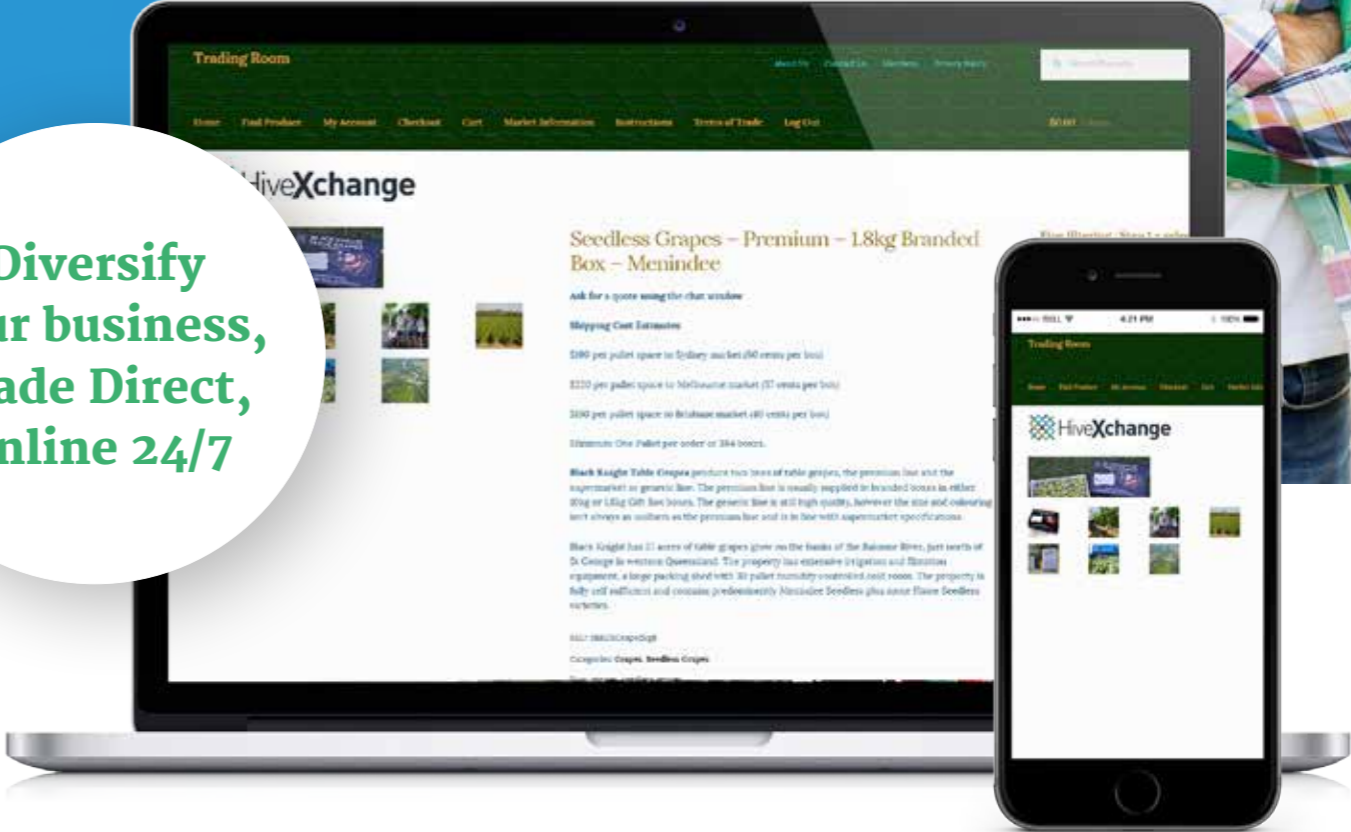
We have urged the Federal Government to actively ensure that backpackers around the world are aware of these changes, and that there is proactive promotion to ensure that the sector has labour resources moving forward. The reality is that Tasmanian agriculture needs backpackers. Our growers need some assurance that they will have the workforce that they need.

On a final note, the Board and staff of the TFGA look forward to working with you all in what will hopefully be a far less tumultuous 2017.

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