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January/February 2015

Jarryd Janke and Corey Weier
Young growers

Anthony Houston
Tasmanian stalwart

Controlled traffic farming
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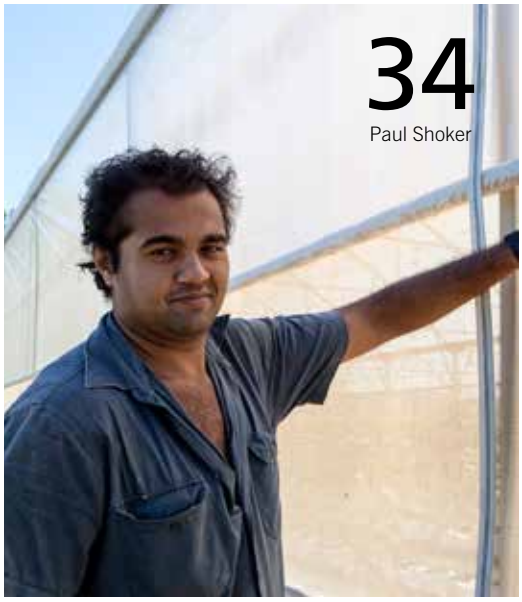

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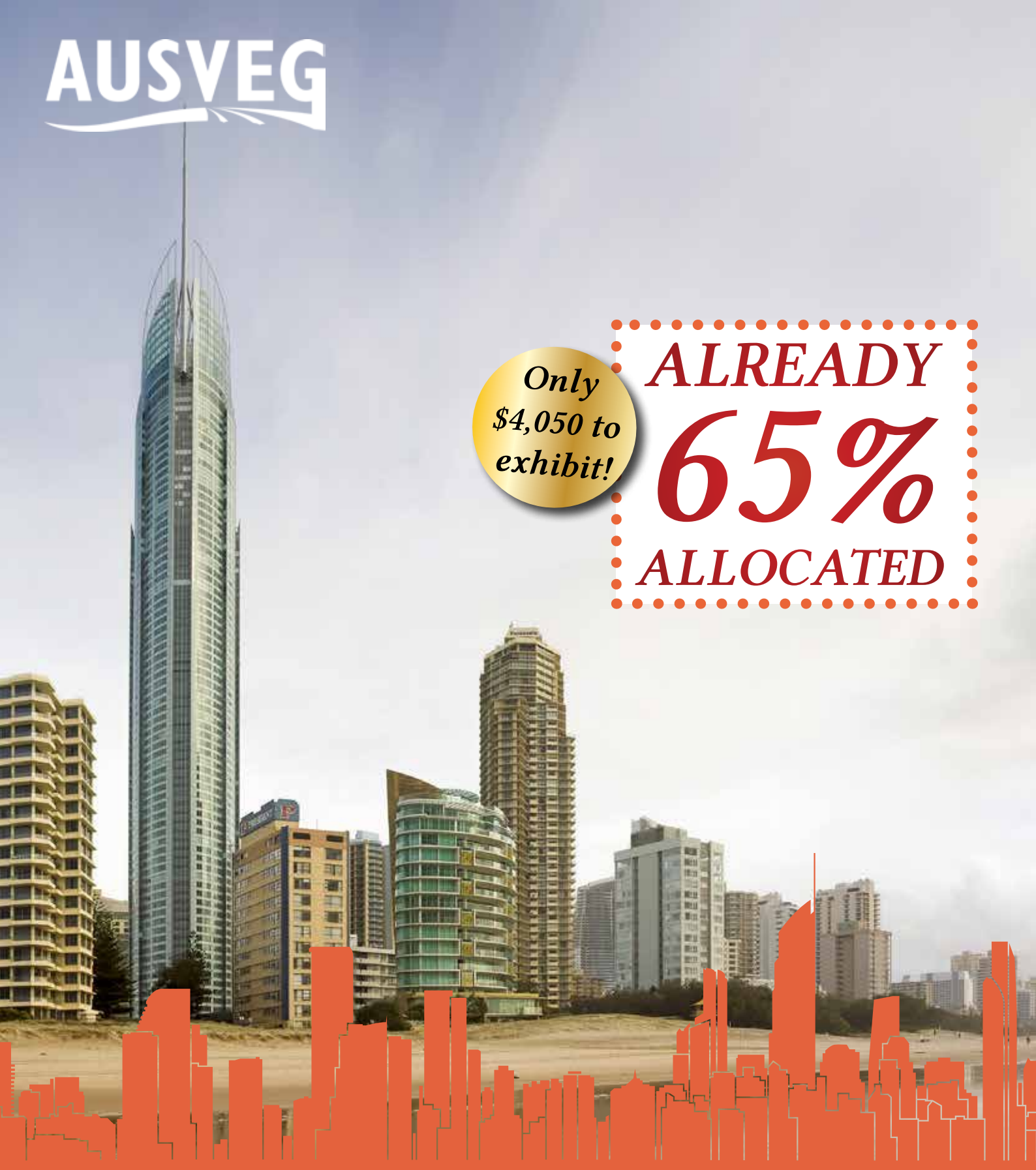

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Geoff Moar

AUSVEG Chairman

A new year signals a new start, and new possibilities for keeping ahead of the pack. It's an opportunity to reflect on the year that was and acknowledge just how far the Australian vegetable industry has come. Most importantly, it is also an ideal time to learn from the past, prepare for the year ahead and find ways to operate more efficiently and cost-effectively – and ideally, walk away as better growers with a tidy profit for your hard work.

The same mindset applies to the wider Australian vegetable industry, including peak industry representatives such as AUSVEG. Throughout 2014 we have been committed to furthering the interests of vegetable growers nationwide by staying true to our core brief of making representations to government on behalf of growers and ensuring vegetable R&D best meets the needs of industry. We too will reassess the events of the previous year and come together to ensure the Australian vegetable industry sees out another successful year in 2015.

One key development that has been gathering momentum in the past few months is export development. During 2015, AUSVEG will again work with growers to help them compete globally as they continue to produce the world's best quality vegetables. The possibilities are numerous in this area, with key export markets continuing to show a serious interest in Australian-grown produce.

Plans are already afoot to provide growers with some of the biggest and most anticipated events in Australian horticulture in 2015. To kick things off, the inaugural Exporting to Malaysia and the United Arab Emirates Symposium in Adelaide from 28-29 January will give growers and industry stakeholders more information about how to best access these markets.

We have worked hard to bridge the gap between Australian vegetable growers and international markets so that, in time, growers can expand their customer base, improve the profitability of their growing operations and continue to build the national economy. Once again, we promise to ensure this dedicated work continues in 2015 and beyond.

Geoff Moar
Chairman
AUSVEG

Richard Mulcahy

AUSVEG Chief Executive Officer

With the new year now upon us, each day brings us a step closer to the 2015 National Convention, Trade Show and Awards for Excellence. With more than 1,400 local and international delegates already preparing to descend on Jupiters Gold Coast from 25-27 June, it is clear that this event will continue to be a highlight of the Australian horticultural calendar. With three full days of networking and knowledge-building at your fingertips, the National Convention will connect growers with local and international industry and business representatives, as well as around 100 exhibitors.

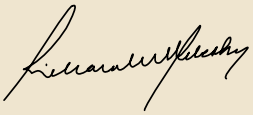
This year's event is already breaking records, with booth space at the popular Trade Show continuing to sell out quickly. The AUSVEG team is working tirelessly to finalise the program and the list of speakers to ensure that this year's National Convention exceeds expectations. In fact, there are many exciting developments already underway that are set to revolutionise the 2015 Convention as we know it, and simultaneously broaden your current knowledge and list of contacts within the industry. Stay tuned for many more exciting updates, to be announced in the coming weeks.

For those of you who have attended the National Convention in previous years, you will know that it is generally preceded by a full day symposium dedicated to topics that can revolutionise how vegetable growers go about their daily operations on the farm.

This year, we are excited to announce that a Global Innovations Seminar will be held leading in to the National Convention, focusing primarily on global technologies in horticulture. The seminar will feature eight outstanding industry experts and innovators from around the world who will present to an anticipated audience of more than 100 levy-paying growers on the Gold Coast in June.

The presenters will be well-versed in a range of topics pertinent to the innovative development of the Australian vegetable industry. They will discuss the latest developments in horticulture technologies that can boost efficiency on-farm and drive down the ever-increasing financial pressures faced by growers.

As the months progress and the details are finalised, we here at AUSVEG are certain that the 2015 National Convention, Trade Show and Awards for Excellence will set a brand new standard for industry events in Australian horticulture. I look forward to seeing you all there.



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Jarryd Janke and Corey Weier

Photograph by Rowena Dione Photography

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The first edition of *Vegetables Australia* for 2015 is packed with plenty of information that can ultimately be used to help vegetable growers prepare for yet another challenging year ahead. We hope that 2015 is a very profitable one for you all.

We begin this edition with our grower profile on page 10, which focuses on the legacy of Anthony Houston, a well-known grower in Tasmania. His surname is synonymous with quality produce and now, as he takes a step back from the daily operations of the farm, he tells us about his journey to creating such a successful operation and his passion for Tassie.

Two young colleagues in Queensland have also come together for a special double profile in this edition of the Young Grower Q&A (page 28). Jarryd Janke and Corey Weier of Rugby Farm discuss what they enjoy most about working in the vegetable industry, their differing roles on the farm and what they hope to achieve from a career in the industry.

Many of you will recall that Dr Elizabeth Duncan stepped down from her role as a Skills-Based Board Director of AUSVEG at the end of 2014. In the article on page 16, Dr Duncan speaks about her time with the company and remembers the many milestones that were achieved along the way.

In R&D news, we take a look at some of the highlights from the recent 2014 Young Grower Industry Leadership and Development Mission, which brought to light the major opportunities that exist in the export markets of Japan and South Korea (page 20). An interview with Plant Pathologist Krishna Subbarao from the University of California-Davis is also featured on page 38. Mr Subbarao recently visited the Apple Isle to discuss some of his latest research findings on the effective use of broccoli as a rotation crop to limit disease in lettuce crops.

Looking a little closer to home, a new precision agriculture project in Queensland is profiled on page 18. Many of the state's vegetable growers are trialling controlled traffic farming technology to optimise production practices on their farms, with positive results. Meanwhile, the CSIRO and Bureau of Meteorology have teamed up in a new R&D project that aims to produce more accurate and detailed weather forecasts so vegetable growers can try to stay one step ahead of Mother Nature (page 30).

In the biosecurity space, we introduce the first of a series of articles explaining all you need to know about the Emergency Plant Pest Response Deed (page 12), while The Front Line examines the best ways to incorporate the important role of beneficials into an effective Integrated Pest Management strategy on-farm (page 14).

Veggie bites

Facts & figures...

183%

Under current agricultural policies, the consumption of vegetables in India is expected to grow by 183 per cent between 2009 and 2050, as recorded by the ABARES report *What India Wants: Analysis of India's food demand to 2050.*

$152,000

A report from ABARES entitled *Australian vegetable growing farms: An economic survey, 2012-13 and 2013-14* shows that average farm gross income is estimated to have fallen to $152,000 for vegetable levy paying growers in 2013-14.

Project Harvest's September 2014 report found that 58 per cent of consumers prefer to purchase individual beetroots, rather than pre-packaged options.

58%

1/5

If an Australian vegetable was not available, one fifth of consumers would visit another store to purchase Australian grown, according to Project Harvest's September 2014 report.

$37.5 million

The value of the contract that star NFL player in the United States, Jason Brown, gave up to become a vegetable farmer. The 29-year-old was once the league's highest-paid centre when playing for the St Louis Rams, according to *Business Insider Australia.*

$25.7 million

In 2013-14, Australia exported more than $25.7 million worth of vegetable products to Singapore, according to data from the Global Trade Information Service.

The approximate amount of fresh broccoli that is imported by Japan each year, as found in the Broccoli to Japan Desktop Research conducted by Trade and Investment Queensland.

38,000 tonnes

27%

According to Project Harvest's September 2014 report, 27 per cent of consumers indicate they already consume enough Asian vegetables for their needs.

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Houston's Farm: A growing legacy in Tasmania

AFTER 23 YEARS, WELL-RESPECTED LETTUCE AND SALAD GROWER ANTHONY HOUSTON IS TAKING A STEP BACK FROM THE DAILY OPERATIONS OF HOUSTON'S FARM IN TASMANIA. HE SPEAKS TO DIMI KYRIAKOU ABOUT HIS UNLIKELY ENTRY INTO THE VEGETABLE INDUSTRY, AS WELL AS HIS LOVE FOR TASMANIA AND HIS HOPES FOR THE FUTURE OF THE FAMILY BUSINESS.

There is perhaps no bigger fan of Tasmania than Anthony Houston. After spending a few hours in his company during a tour of Houston's Farm in Cambridge, that much and more is clear about this vegetable grower from the south.

What is also clear about Anthony is that he is a humble man who not only appreciates the hard work and dedication that was necessary to get Houston's Farm where it is today, but also recognises that sometimes, a little bit of luck and the help of some generous people can play a major role on the road to success.

Anthony, who hails from a family of "Ten Pound Poms" that migrated to Australia in 1957, was always in the farming game but not originally in the brand of vegetables. Things weren't exactly sunny side up (pardon the pun) for Anthony and his twin brother Colin in the early days, when they produced eggs at Houston's Farm. The partnership lasted for 20 years, with Colin working on the farm and Anthony taking care of the processing, distribution and marketing, until Colin started up his own vegetable growing business six years ago.

If it weren't for Anthony's determined wife and an enthusiastic friend, the twin brothers may have still been working among the chooks today.

"We had an old friend, Dennis, who tried to convince us to grow lettuce on the egg farm but we didn't have the water – Cambridge is one of the driest parts of Tasmania in terms of rainfall. After the government built the Craigbourne dam in the nearby valley, the pipeline ran straight through our property and it changed everything," he recalls.

"One night I was sitting there depressed watching TV and my wife Prue lost her temper and told me to call Dennis up about his thoughts on growing iceberg lettuce. The next day he helped us to fence off a little area of the farm and we ended up growing really good lettuce there."

With a constant focus on quality, Anthony and Colin rounded up their most successful batch of lettuce and set up a meeting with a major supermarket chain that, up until that point, had little faith in the quality of lettuce that both new and established growers supplied. Thinking that Houston's Farm would be no different, the supermarket was pleasantly surprised to see the high quality of the produce that Anthony brought along to the meeting and signed him up on the spot.

These early dealings with supermarkets and other retailers taught Anthony many valuable lessons: that you can achieve almost anything with quality produce, and maintaining an open and honest business relationship with your customers is the key to moving forward.

Entering the salad sector

For about three years, Houston's Farm produced around 2,500 cartons of iceberg lettuce a week, but that was only the beginning. After recognising an increasing market demand for

salad, Anthony and Colin set to work expanding the company's product offering to include salad mix, spinach and rocket.

The development of this side of the business was a work in progress that succeeded only because Anthony and his team adjusted their operations to suit the market's demand for fresh, loose leaf salad. Houston's Farm was then able to capitalise on a booming industry that now sees them produce 80 tonnes of salad per week.

"There was no marketing strategy. We grew a quality product and we kept talking to our customers, getting to know what worked and what didn't. And the phone kept ringing," he explains.

Always the realists, Anthony and Colin understood the high demand for salad would eventually plateau. Rather than produce more salad varieties and risk losing that ever-important factor of quality, they realised it was far more valuable to tap into the mainland market with a smaller selection. Anthony approached the supermarkets once again to gain access to the mainland market and they were happy to help.

"I think that's where a lot of people fall down because they think the supermarkets are enemies, but we are always open with them. If we're losing money on a product, we tell them because they don't want us to go broke – it's not in their interest. They are willing to help and they've been fantastic to us. We learnt to overcome the fear that price beats quality every time," he says.

"After we established a presence in Melbourne and the wider national market, we pulled the pin on egg farming and put all our energy into growing salads and lettuce."

The location of Houston's farm in the southeast pocket of Tasmania is perfect for growing salads, and Anthony attributes this to ideal weather conditions and easy access to pure, clean water from the Derwent River (this is also thanks to the state government's recent investment in an irrigation scheme that has opened up new possibilities for some of Tasmania's driest farming areas).

This simple fact has not gone unnoticed, with some large mainland vegetable growers settling in the area, as well as the northwest coast. But rather than be disheartened by his competitors, Anthony sees their presence as a positive for his beloved island state.

"There have been a few very strong salad growers come through and that's typical of an industry that has matured. It has brought in professionalism – we've been saying how good Tassie is and now some of the biggest companies in mainland Australia have set up here. It's turned an immediate negative into a positive because it means that Tasmania will be better recognised," he says.

Taking a step back

A love of farming and a passion to protect Tasmania's natural surroundings has certainly contributed to Anthony's success in the local vegetable industry. Looking forward, Anthony says it's not about seeing Houston's Farm develop into a bigger corporation, under the watchful eye of current CEO Paul Lupo, but rather become a business that is sustainable for decades to come.

"It's not about the size of the farm, even though we've grown quite rapidly. The important thing is sustainability, so we can keep going for the next 50 years. That's my desire and it's important to get on the front foot with regards to the environment," he says.

"What I enjoy most of all is watching the younger generation come in and giving them the opportunity to grow and develop in the business; I think that's the nicest part. I believe technology in agriculture will bring young people in and make it more exciting. Now that I've pulled back from the running of the business, I'm putting a lot of my time into helping other people."

Looking back on his experience in running Houston's Farm, Anthony has one simple message for up-and-coming young growers in the vegetable industry: "If you have an idea, be bold; do your research and take a leap of faith. You may have to change direction at some point in the business, but don't ever give up."

Photographs by Loic Le Guilly.

THE EMERGENCY PLANT PEST RESPONSE DEED IS A PARTNERSHIP ARRANGEMENT BETWEEN GOVERNMENT AND INDUSTRY THAT PROVIDES A FRAMEWORK FOR DECISION MAKING DURING AN EMERGENCY PLANT PEST (EPP) INCURSION. IN THE FIRST OF SEVERAL ARTICLES ON THE TOPIC, WE SPEAK TO AUSVEG BIOSECURITY ADVISER DR KEVIN CLAYTON-GREENE ABOUT WHAT 'THE DEED' MEANS FOR GROWERS AND HOW IT DRIVES EACH PHASE OF AN EPP OUTBREAK.

What is an EPP?

An EPP is a known exotic pest, a variant of an established plant pest, a previously unknown pest or a plant pest of potential economic importance. The Vegetable leafminer is an example of an EPP that is widespread overseas, but has not yet been found in Australia.

What is the Emergency Plant Pest Response Deed?

The Deed was ratified in 2005 with the aim of developing a consistent national approach to manage incursions of EPPs. As a legally binding agreement between Plant Health Australia, states and territories, the Australian government and industry bodies, it provides a framework for cost-sharing between parties during eradication of an EPP. In essence, the Deed allows governments and industry to share responsibility for emergency responses to EPP incursions.

Quick fact: AUSVEG became a Signatory to the Emergency Plant Pest Response Deed in November 2008.

Why would an industry body opt to become a signatory to the Deed?

As a signatory to the Deed, an industry body may participate in the decision making process during an EPP incursion. In addition, industry members are eligible to claim reimbursement for some costs incurred during implementation of a response plan if their industry body is a signatory to the Deed.

What is the role of 'Plant Plan' during an EPP incursion?

Guidelines for actions that may be carried out when working under the Deed agreement are included in Plant Plan. It outlines the phases of an incursion, as well as the key roles and responsibilities of industry and government during each phase of an incursion.

When should you report a pest incursion?

Regular monitoring of crop health is a crucial factor in detecting EPPs. As a grower, it is important that you report any unusual insects or disease symptoms found on your crop. Calling the Exotic Plant Pest Hotline will put you in touch with the relevant Department of Primary Industries (DPI) office in your state or territory. The Hotline may be reached on 1800 084 881.

What is the next step after reporting a potential EPP?

Once aware of the situation, the relevant DPI office (referred to as the Lead Agency during a biosecurity incident) can arrange testing or surveillance of the potential EPP. This represents the beginning of the Investigation and Alert Phase.

What happens during the Investigation and Alert Phase?

Several key actions are carried out by the Lead Agency during this phase. If the Lead Agency suspects the presence of an EPP, the Consultative Committee on Emergency Plant Pests (CCEPP) is convened. In addition, precautionary biosecurity measures are adopted (e.g. containment of the affected growing area and implementation of on-farm sanitisation practices) and key response staff are placed on standby in case a quick response is needed.

What is the role of the CCEPP?

The CCEPP is made up of representatives from states, territories, the Commonwealth and industry parties that may be affected by the pest. Its purpose is to make recommendations, based on technical information at hand, to the National Management Group (NMG). The NMG will then make final decisions regarding the pest. Initially, the CCEPP will review technical information in order to determine if the pest may be classified as an EPP. If the CCEPP recommends that the pest be classified as an EPP, the biosecurity incident will move into the Incident Definition Phase.

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Beneficials: A standing army to assist with on-farm biosecurity

A green lacewing. Photo courtesy of Whitney Cranshaw, Bugwood.org.

USING BENEFICIALS, OR 'BIOLOGICAL CONTROL AGENTS' FOR CONTROLLING PLANT PESTS IS AN IMPORTANT ASPECT OF INTEGRATED PEST MANAGEMENT (IPM). BEING AWARE OF PLANT PEST PREDATORS THAT RESIDE IN LOCAL GROWING AREAS IS THE FIRST STEP TOWARDS INCORPORATING THEM INTO AN EFFECTIVE IPM STRATEGY. PREDATORY INSECTS AND PARASITOIDS ARE TWO COMMON TYPES OF HORTICULTURAL BENEFICIAL THAT WILL BE INVESTIGATED IN THIS EDITION OF THE FRONT LINE. AUSVEG BIOSECURITY AND SPECIAL PROJECTS COORDINATOR DR JESSICA LYE REPORTS.

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Predatory insects

The life cycle of many insect species include at least one or more life stages that involve preying on other insects. Common predatory insects include assassin bugs, hover flies, robber flies and praying mantises. Lacewings and lady beetles are two predatory insects that are especially common in many Australian growing regions.

Lacewings are common throughout the world and include many distinct species. *Apertochrysa edwardsi* (a species of green lacewing) is found in Tasmania, Victoria, New South Wales and some parts of Queensland. Green lacewings are major predators of aphids, caterpillars, psyllids, white flies, thrips and mites, and can have a large effect on curbing the population growth of common pests. Lacewings reproduce very quickly, with females laying as many as 600 eggs during their lifetime (a period of three to four weeks). The larval stage of the lacewing life cycle is the predatory stage of this species.

Lady beetles are common to many Australian growing regions. These insects include several Australian species with the most ubiquitous being the common lady beetle, *Harmonia conformis*. Both larvae and adult *H. conformis*, as well as several other lady beetle species, prey heavily on aphids.

Count your spots!

It is important that the common lady beetle, which has 18 black spots, is not confused with the 28-spotted lady beetle (*Epilachna vigintioctopunctata*) – a plant pest that affects cucurbit crops.

Parasitoids

The terms 'parasitoid' and 'parasite' are easily confused. While parasitoids and parasites display a key similarity – both rely on a host for survival at some point in their life cycle – their point of difference (at least for growers) is even more important. While a parasite may weaken a host over time, only a parasitoid infection will reliably kill a host. In fact, a parasitoid must kill a host in order to complete its life cycle. Small wasps represent one type of parasitoid that can be found in Australian growing regions.

The **small wasp**, *Aphidius colemani*, commonly uses aphids as hosts for larval development. This endemic parasitoid has previously been used overseas to combat aphids that affect cucumber and capsicums. After being injected with a small wasp egg, aphids can survive for several days. After hatching, *A. colemani* larvae feed on the aphid, eventually killing it and emerging from the mummified aphid body. Parasitoid development time is in the order

Green lacewing eggs. Photo courtesy of Whitney Cranshaw, Bugwood.org.

Quick fact:

Lacewing larvae coat themselves in the remains of insect prey as camouflage to aid with hunting.

of 11-14 days.

Another small wasp, the native *Microplitis demolitor*, plays an important role in keeping populations of *Helicoverpa* (*Helicoverpa punctigera* and *Helicoverpa armigera*) in check. Known as a larval parastitoid (this small wasp completes its life cycle in caterpillars), *M. demolitor* is commonly found in growing areas where there is a resident *Helicoverpa* population.

The female *M. demolitor*, which can parasitise around 70 caterpillars during her adult life, also contributes to the spread of ascovirus – a serious virus that affects *Helicoverpa* caterpillars. As the female *M. demolitor* wasp injects each caterpillar with an egg, the virus can quickly spread throughout the moth population. Parasitism by *M. demolitor* in conjunction with ascovirus infections can have a devastating effect on *Helicoverpa* populations.

Recognising beneficials in the field

For growers, recognising the signs of beneficial activity in a crop is important so that the impact of their predation or parasitism may be factored into an overall IPM strategy.

Once camouflaged by the remains of insect prey, lacewing larvae can be difficult to identify. Adult lacewings are active at night and lacewing cocoons are usually well hidden. However, lacewing eggs can be identified by their placement high on the plant stem, well away from ground dwelling predators.

While the adult stage of the lady beetle is easily recognisable, the larva can be difficult to identify. Lady beetle larvae are usually elongated, flattened and dark in colour with yellow or orange flecks. Lady beetle eggs are pale and are laid in upright clusters, usually on the undersides of leaves.

Adult parasitoid wasps can often be seen flying above a crop during daylight hours. Use of a sweep net is an effective way to sample the crop for small wasps. Visible signs of parasitoid activity also include the presence of small, pale pupae, often situated adjacent to caterpillar remains (in the case of *M. demolitor*) or a 'mummified' aphid (in the case of *A. colemani*).

Augmenting beneficial populations from commercial suppliers

Many beneficial species can be acquired commercially and added to growing areas or greenhouses. This is known as 'augmentation'. Successful augmentation relies on correct identification of the plant pest, choosing a beneficial that is known to be effective against that pest, and careful control of prey to beneficial ratios during the implementation stage.

Attracting beneficials to growing areas

Strategic pesticide application (carefully timed sprays and spot spraying) and use of pesticides with short residual activity will contribute to minimising negative impacts on beneficials. In addition, many beneficial insects, such as the lady beetle, green lacewing and parasitic wasps, require an additional food source during their adult stages. In these cases, a high availability of nectar or pollen contributes to a longer adult life stage and higher production of progeny.

Planting flowering plants at strategic sites near growing areas can provide the nutrients necessary for sustained populations of beneficials (elder, dill and fennel are some examples of flowering plants that can attract beneficials). It is important to research what plants may be the most suitable suppliers of nectar and pollen to beneficials in your region before planting. This will go a long way towards sustaining a healthy army of beneficials on-farm.

A closer look at the small wasp life cycle

After the female *M. demolitor* injects a caterpillar with a single wasp egg, the emergent larva feeds on the caterpillar host, growing internally. After about one week the wasp larva chews through the caterpillar epidermis and emerges to form a pupa and begin the free living stage of its life cycle.

The empty shells of these aphids are indicators of the small wasp that use them as hosts for larval development. Photo courtesy of David Cappaert, Michigan State University, Bugwood.org.

Any unusual plant pest should be reported immediately to the relevant state or territory agriculture agency through the Exotic Plant Pest Hotline (1800 084 881). For further information, see the farm biosecurity website at www.farmbiosecurity.com.au, or contact AUSVEG Biosecurity and Special Projects Coordinator Dr Jessica Lye on (03) 9882 0277 or email jessica.lye@ausveg.com.au.

Dr Elizabeth Duncan: An invaluable industry representative

AFTER SIX YEARS OF DEDICATED SERVICE TO THE VEGETABLE AND POTATO INDUSTRIES, DR ELIZABETH DUNCAN HAS RETIRED FROM THE AUSVEG BOARD OF DIRECTORS. SHE SPEAKS TO *VEGETABLES AUSTRALIA* ABOUT HER TRIALS AND TRIUMPHS DURING HER TIME WITH THE ORGANISATION.

Photograph by Sally Brown.

Dr Elizabeth Duncan may have made an instrumental contribution to the vegetable and potato industries as a Skills-Based Director on the AUSVEG Board, but that hasn't stopped her from supporting growers at a grassroots level as well.

"I visited my local supermarket recently and saw a hand-written sign advertising some kiwifruit as a product of Australia. I called over the manager – he knows me by now – and I showed him the stickers on the fruit that said 'Product of New Zealand'. He asked the staff to change the sign immediately," she laughs.

Pointing out such discrepancies may seem like common sense as they have an immediate impact on the local community, but what Dr Duncan has brought to the wider Australian vegetable and potato industries during her six years on the AUSVEG Board and as Chair of the AUSVEG Finance and Audit Committee extends far beyond that one simple action.

A fortuitous meeting

With a wealth of practical business, commercial and financial experience to her name, Dr Duncan has worked in senior management roles within an array of financial institutions and, more recently, as a consultant across a variety of industries.

"Basically I am a problem solver. If there is something that can't be done, I will find a way of doing it," Dr Duncan says.

A tree change to the country saw Dr Duncan turn her hand to university lecturing, with a focus on corporate governance and commercial accountability. One day a colleague who was working with AUSVEG at the time, casually mentioned that the company should have somebody taking care of their auditing and accounting and suggested that Dr Duncan look into it.

As they say, the rest is history – Dr Duncan was appointed to the AUSVEG Board in December 2008.

New beginnings

Dr Duncan set to work bringing AUSVEG back into an organised financial state and set up an Audit Committee in order for the company to move forward, ahead of the appointment of current CEO Richard Mulcahy, who joined the peak industry body in 2009.

"When I was initially introduced to the company, what struck me was the complete lack of accounting skills and any sort of ethics and governance within the organisation. Initially I could see the need to get somebody in straightaway to sort out the financial records," she explains.

"Once the books were balanced, the next step was to work with the board to source a CEO who would bring a strong ethical requirement: somebody who saw that it wasn't just the strict letter of the law that was important, but who could take the organisation to the next level."

Dr Duncan said a pivotal point for the organisation was the 2009 appointment of Mr Mulcahy, who she credits with playing an instrumental role in helping the organisation get back on track.

"Richard really brought the enthusiasm as well as the skills to market and develop the organisation. He also has an incredible ability to hire staff that have the same kind of high values and ethics he does. That's made all the difference," Dr Duncan explained.

With the day-to-day running of the business under the watchful eye of Mr Mulcahy, Dr Duncan was free to help the board refocus on what should be its primary role.

"While there were experienced growers on the board who had a lot of agricultural knowledge, they didn't really have much knowledge about running a company or what boards should actually do. I think one of the things I helped the board to see was not to delve into the minutiae and the operating activities of the organisation, but to operate at a more strategic level and provide guidance for the organisation from that perspective," she says.

Horticultural highlights

Looking back, Dr Duncan notes that one of the highlights during her six years on the board was seeing the organisation transform into a positive and profitable entity that collaborates effectively with the wider industry.

"How far the company has developed is directly proportional

Dr Elizabeth Duncan speaks at the Women in Horticulture event in Cairns in June 2014.

to the commitment of all the staff and directors. We have a much more mature and resilient organisation now," she explains.

"As a director, you can trust the information given to you by staff and can have confidence that it is correct. That means a lot to a director because if you can't rely on the information you are given, it makes it really hard to perform your role."

The development of the National Convention and potential export markets has also been pleasing to witness.

"The Conventions have grown from an amateur job to a professionally run event. That's a credit to everyone involved," Dr Duncan notes.

"I hope that our Australian vegetable and potato industries continue to be recognised for what they are: industries that give much higher quality than any other in the world. It would be lovely to see the export markets develop further and for Australia's growers to be known for producing the best quality."

The next step

As Dr Duncan prepares to steer her career towards being a full-time professional skills-based director, there is no doubt that AUSVEG would not be where it is today without her knowledge, assistance and guidance. Her ability to implement rigorous financial and governance protocols, commercial expertise and adapt her skills to the benefit of the vegetable and potato industries has been instrumental during the development of the organisation.

The AUSVEG Board of Directors and staff wish Dr Duncan the best in her future endeavours.

Queensland trials: Precision agriculture improves crop management

PRECISION AGRICULTURE IN HORTICULTURAL PRODUCTION HAS GAINED MOMENTUM OVER THE LAST FEW YEARS. NOW, SOME OF QUEENSLAND'S MOST PROMINENT VEGETABLE GROWERS HAVE ADOPTED CONTROLLED TRAFFIC FARMING TECHNOLOGY TO OPTIMISE PRODUCTION PRACTICES ON THEIR FARMS.

Left to right: Darren Zunker, Sarah Limpus and Patrick Logue view crop mapping on an iPad using Dropbox and Google Earth.

Controlled traffic farming (CTF) can be considered as the 'convenience food' of the farming technology industry. It's readily available and easily adapted to most farming systems, and in some cases, has been subsidised for environmental benefits.

The vegetable and wider horticultural industries are now on the lookout for new ways to enhance farm productivity and decision-making, particularly in areas where value can be added to existing technology such as guidance systems. However, as the use of precision technologies in horticultural systems remains in its infancy, adoption pathways are yet to be established.

Queensland's solution

The Queensland Department of Agriculture, Fisheries and Forestry's (DAFF) Horticulture Systems Innovation group is optimising and validating a range of crop management technologies for vegetable systems. *The Adoption of variable rate technology (VRT) in Queensland's intensive horticultural production systems* project is developing a range of precision approaches while assisting producers to navigate the adoption barriers.

Through grower-group partners, DAFF staff are working with innovative producers in the major vegetable growing regions of Queensland, including the south-east, Bundaberg, Bowen and Atherton Tablelands. These growers represent some of the most highly valued vegetable commodities in Queensland covering tomato, capsicum, chilli, green bean, sweet corn, sweetpotato, carrot, brassica crops, lettuce and potato.

DAFF development horticulturist Sarah Limpus said growers welcomed the project, with some looking to fund their own equipment updates to maximise the transition into improved crop management technology on their farms.

"The first job we have in developing pathways for adopting VRT is to find out where, or if, there is crop and yield variability," Ms Limpus said.

"Simultaneously, we must identify the causes of variability and whether we can manipulate those factors, such as soil health and nutrition, pests and disease or agronomic factors such as irrigation and planting operations."

Yield monitoring

Darren Zunker of Windhum Farms in Bundaberg is just one of 10 Queensland vegetable growers trialling the new technologies as part of the project. Windhum Farms adopted GPS guidance and CTF two years ago, recognising it as an opportunity to farm more efficiently.

"Guidance was the start. Efficiency is the big thing for us; we're always looking for more efficient outcomes," Mr Zunker said.

The project has enabled the installation of a geo-referenced, real-time yield monitor on the farm's sweetpotato harvester, a first for sweetpotatoes and carrots in Queensland. Preliminary yield data is already demonstrating the value of yield maps to the farming system, with producers quickly seeing which parts of the farm are doing the 'heavy lifting'.

"It's early days in terms of yield monitoring in sweetpotato and we've had to make some hardware and software modifications, but we can already see the potential for managing crop variability," Mr Zunker said.

Mapping technologies

Along with yield monitoring, the project is exploring other technologies to assess crop variability such as soil and crop biomass mapping. For instance, Electromagnetic Induction (or EM) is being used to characterise the spatial variability of soil properties such as texture, water and salt content.

This data, along with high resolution satellite or tractor-based biomass imaging and field sampling, is allowing producers and their consultants to look at block and crop performance in a new way and to consider new sampling and input regimes.

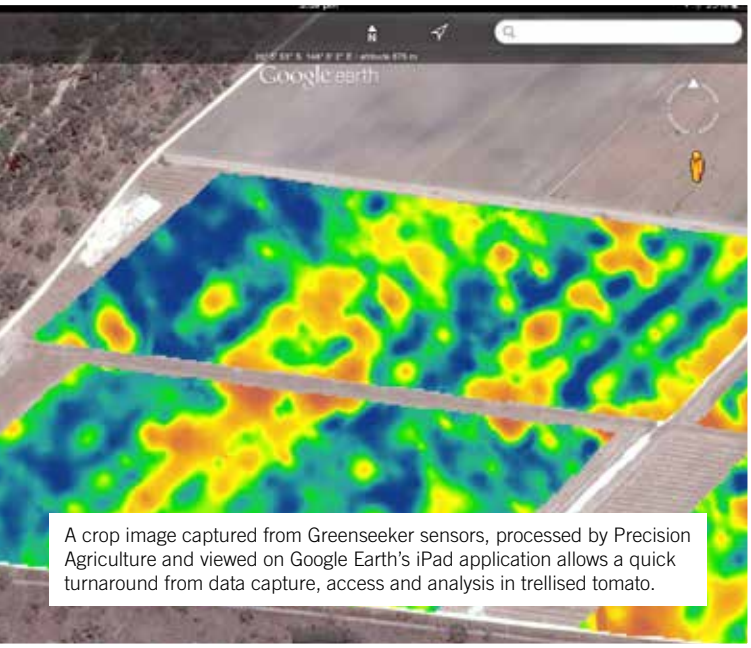
"Using these layers, crop biomass and yield and soil mapping, we can start to create a picture of the interactions these factors have within the farming system and how we might manipulate those relationships to reduce variability and increase yields of vegetable crops," Ms Limpus said.

One of the key challenges in this area is the need to turnaround the mapping data quickly so producers and their agronomy team can make a management decision. Therefore, following the

collection and post-processing of imagery and data, the mapping provider sends growers and agronomists an automated text message to inform them that their maps are ready for viewing via their mobile device or using 'the cloud'. Using free platforms such as Google Earth and Dropbox can also accelerate the process.

This approach allows producers and crop consultants to stand in the field and pinpoint where the imagery is telling them to look out for issues. Cloud-based storage also allows historical imagery to be recalled very easily so maps can be compared to each other in the field.

Looking ahead, prescription mapping is the next phase in the project as producers are keen to commence addressing soil variability through the use of nutrient and bulk input (e.g. lime and gypsum) prescription maps. Unlocking the ability to improve the management of variable soils has been a big drawcard for producers.



A crop image captured from Greenseeker sensors, processed by Precision Agriculture and viewed on Google Earth's iPad application allows a quick turnaround from data capture, access and analysis in trellised tomato.

Trial and error

Implementing these technologies on-farm has not all been smooth sailing. Yield monitoring in sweetpotatoes has resulted in machinery modifications, while strategies for installing yield monitors on semi-mechanised tomato and capsicum harvest aids proved to be more challenging than the mass-based tools used for other crops.

Finding the right way to mount biomass sensors to a range of spray rigs also required collaboration with commercial equipment providers. The installation of Greenseeker and yield monitoring technology in tomato, capsicum and chilli will occur over the Queensland wet season and intensive validation of the technology will be assessed.

The process of validating the tools and mapping images is intensive, as it relies on technical officers working with growers and crop consultants to review the images and discuss the possible causes of variability. While growers are often aware of the problem areas, the images are able to highlight the extent of the variation and the potential impact this may be having on yield.

Encouraging results

In less than a year, there have been significant investments in new technologies that are demonstrating the benefits of variable rate technology. The project has engaged professionals from many industries keen to make connections and get outcomes for the Queensland vegetable industry.

"We have everyone from the agronomists to local engineers to multinational agriculture companies working together on this. We knew we were going to encounter problems, especially with retrofitting and custom-made equipment, but thanks to everyone's enthusiasm we're making it work," Ms Limpus said.

Patrick Logue, Industry Development Officer at Bundaberg Fruit and Vegetable Growers, is enthusiastic about the outcomes so far.

"Sometimes R&D asks more questions at the end of a project than we started with. The great thing about this project is the questions are being answered all the way along the various levels, and that's a positive for us."

The next six months will see a series of workshops and YouTube videos, case studies and information for vegetable growers. These products will hopefully show producers and crop consultants the pros and cons of precision in vegetable production and highlight a few paths that they might like to take in moving into a precision farming system.

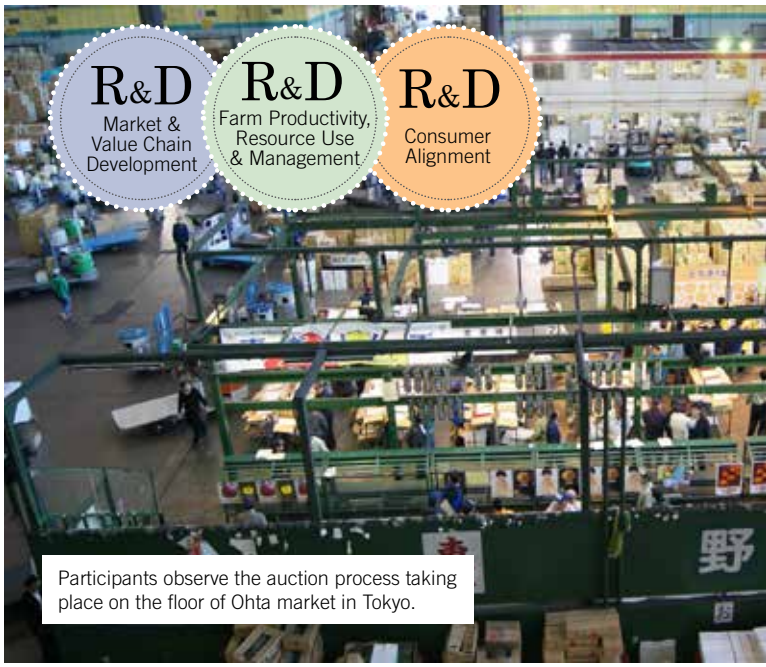
Darren Zunker of Windhum Farms can see the potential of using variable rate technology for his red-soil sweetpotato farm in Bundaberg.

For more information please contact Sarah Limpus at the Department of Agriculture, Fisheries and Forestry's Bowen Office on (07) 4761 4000 or sarah.limpus@daff.qld.gov.au.

This project is a joint initiative between the Queensland Government's Department of Agriculture, Fisheries and Forestry and the Australian Government's National Landcare Programme. Project partners: Precision Agriculture, Bowen-Gumlu Growers Association, Bundaberg Fruit and Vegetable Growers Association, Kalbar Grower Group, Lockyer Valley Growers Association and Terrain Natural Resource Management.

Young growers examine export markets in Japan and South Korea

THE POTENTIAL FOR AUSTRALIAN VEGETABLE GROWERS TO CAPITALISE ON THE KEY EXPORT HUBS OF JAPAN AND SOUTH KOREA WAS AN ONGOING THEME IN THE RECENT 2014 YOUNG GROWER INDUSTRY LEADERSHIP AND DEVELOPMENT MISSION IN OCTOBER LAST YEAR.



Participants observe the auction process taking place on the floor of Ohta market in Tokyo.


Participants are briefed by JA Youth, an arm of the Japan Agriculture Cooperative (JA Zenchu).


Second from left, ADAMA's Robin Hong discusses current pest management issues with Korean Paprika growers. Note the yellow sticky traps.

The 2014 Young Grower Industry Leadership and Development Mission provided nine leading young vegetable levy payers with the opportunity to visit Japan and South Korea to learn more about the production techniques in both countries and further their knowledge in export development.

Through meetings with key industry contacts, the participants gained confidence in developing their business networks during the 14-day tour. They also had the opportunity to visit field and protected cropping facilities, organic growing operations, tour wholesale markets, meet with key buyers and see the latest innovations at a global agricultural technology trade show and exhibition.

Japan

A market briefing with the Department of Foreign Affairs and Trade (DAFF) and AUSTRADE at the Australian Embassy in Tokyo kicked off the 2014 mission. The Japan-Australia Economic Partnership Agreement (JAEPA) was a key focus of the discussions, particularly given the value of Australian vegetables heading to Japan is currently worth $24 million. It is predicted the agreement will result in quick tariff elimination on a vast majority of local vegetables down the track.

The set-up of growers' cooperatives was also highlighted during a visit to the Japan Agriculture Cooperative (JA Zenchu) in Tokyo, which takes an interest in almost every aspect of its members' lives – from health care to funeral services and more. Participants also met with representatives from JA Youth, an arm of JA Zenchu that consists of 60,000 young farmers under the age of 40 and organises social events for young rural Japanese to network with their peers.

Day four of the mission was dedicated to traversing the 210,000 square meters of Agri-Tech Japan, the premier exhibition for the global agriculture industry, which focused on technological innovations in horticulture. Several participants found particular value in visiting the flower expo as many of the new techniques employed within the flower industry were transferable to the vegetable industry – particularly in relation to soil health, harvesting and post-harvest cool storage techniques.

The growers also faced an early start with a visit to the Ohta Wholesale Market in Tokyo. Given that approximately 70 per cent of vegetables sold in Japan are sold through the central market system, it holds much power as retailers must generally purchase produce through market auctions. Due to limited refrigeration at the markets, all produce is sold on the same day and can lead to fluctuated prices that ultimately work in the favour of growers.

The mission also saw participants visit a range of Japanese farms, including Utsunomiya in the greater Tokyo region, where the group inspected cabbages that are grown flat rather than round to make them easier to stack. Discussions with leek growers on the farm also revealed that they pay a nominal cost for their essentially unlimited allocation of water, which stands in stark contrast to the premium placed on water in Australia.

South Korea

South Korea was the next stop on the agenda, and participants initially familiarised themselves

with Korean horticulture at Jangan Farm, the biggest organic vegetable farm in the country. The company has received numerous awards for its innovative approach to increasing the value of fresh vegetables, with claims their organic lettuce can last 40 days without refrigeration. On arrival, the participants ate lunch in the newly built "10 Farmers Market" and sampled the veggie biscuits, veggie chips and assorted 'value-added' veggie products on the menu.

Participants also took in the sights of the two million square metre NongHyup distribution centre, which is entirely owned by a growers' cooperative. Based one hour from Seoul in Aensong, the distribution centre featured state-of-the-art quality assurance and testing laboratories, automated inventory management systems, cold-chain storage facilities and packing lines.

Growers also took pleasure in attending another AUSTRADE briefing, this time in Seoul, noting that it was one of the most beneficial and informative meetings of the mission. Of particular focus for the group was the Korea-Australia Free Trade Agreement (KAFTA) and South Korea's place as Australia's third largest export market.

According to AUSTRADE, food security is a major issue facing the Korean people and the country relies on imports to meet demand. Dietary patterns are also shifting, driven by an increasingly affluent middle-class that has acquired a taste for high-end food and beverages. It was AUSTRADE's assessment that Australia can leverage this shift in consumer sentiment due to its reputation as a food producer with high safety standards that can supply the Korean market with fresh, premium produce.

Following a visit to ADAMA's headquarters in Seoul, where participants learnt of a social trend for Korean growers to use 'eco-friendly' agrochemicals such as synthetic biochemical pesticides, the group then knocked on the door of a local hydroponic capsicum farm with impressive yields on record – on average, 30 green capsicums per plant. Participants also visited the farm's water management house where fresh and used water is sent through colour-coded pipes, allowing growers to regulate the amount of water being fed into the system as well as the water temperature and nutrient levels.

Ongoing benefits

It is expected that the Australian growers who participated in the tour will greatly benefit from the knowledge they have gained from visiting the vegetable production facilities in Japan and South Korea and share these insights within the broader Australian vegetable industry.

In addition, each participant had the opportunity to meet with leading industry and trade figures in Japan and South Korea who were invaluable in providing both individuals and the industry with export leads and advice.

The 2014 Young Grower Industry Leadership and Development Mission was funded by Horticulture Innovation Australia Limited (HIA) using the National Vegetable Levy, voluntary contributions from industry and funds from the Australian Government. A full project report will be released in coming weeks and will be made available on the AUSVEG website www.ausveg.com.au. Project Number: VG11711

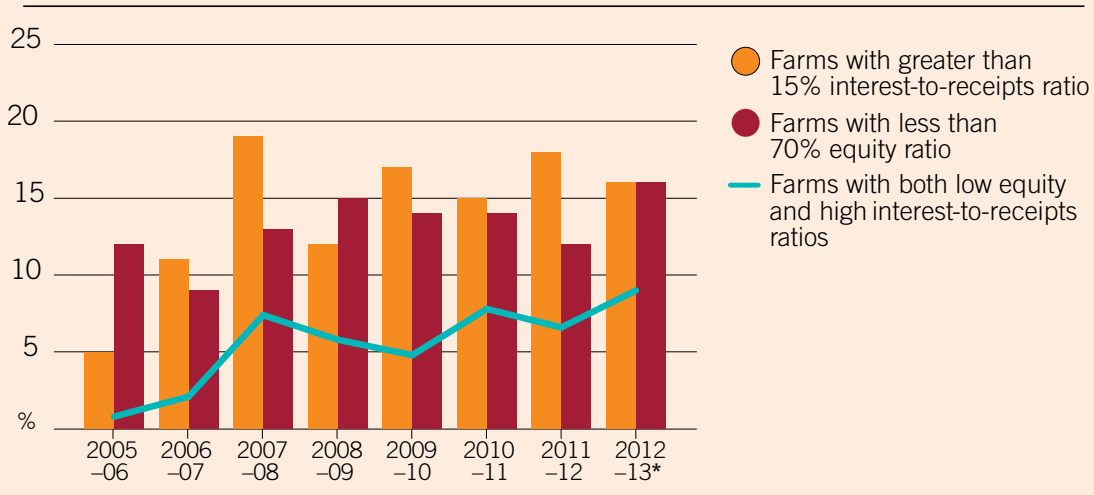
Rising debt and rising costs swallow Aussie grower profits

NEW DATA RELEASED BY THE AUSTRALIAN BUREAU OF AGRICULTURAL RESOURCE ECONOMICS AND SCIENCES (ABARES) HAS REVEALED THE EXTENT TO WHICH AUSTRALIAN VEGETABLE GROWERS ARE STRUGGLING WITH RISING DEBT AND INCREASING PRODUCTION COSTS.

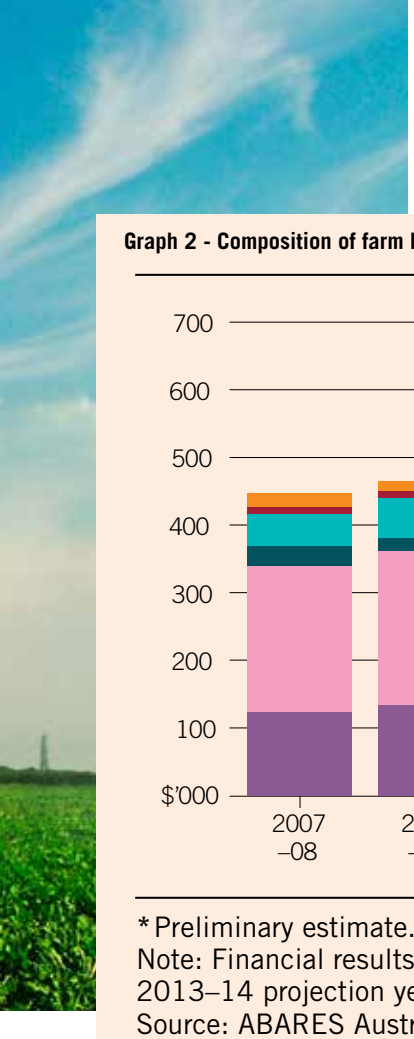
The results from the report *Australian vegetable growing farms – An economic survey, 2012-13 and 2013-14* highlight the financial pressures facing vegetable growers regardless of the commodities they grow, with the rise in production costs and fall in prices hurting growers' profitability.

Production costs have risen by 10 per cent since 2011-12, brought about by escalating electricity, fuel and labour costs. This is negatively affecting growers' returns, impacting on the profitability of their operations and hurting the Australian vegetable industry,

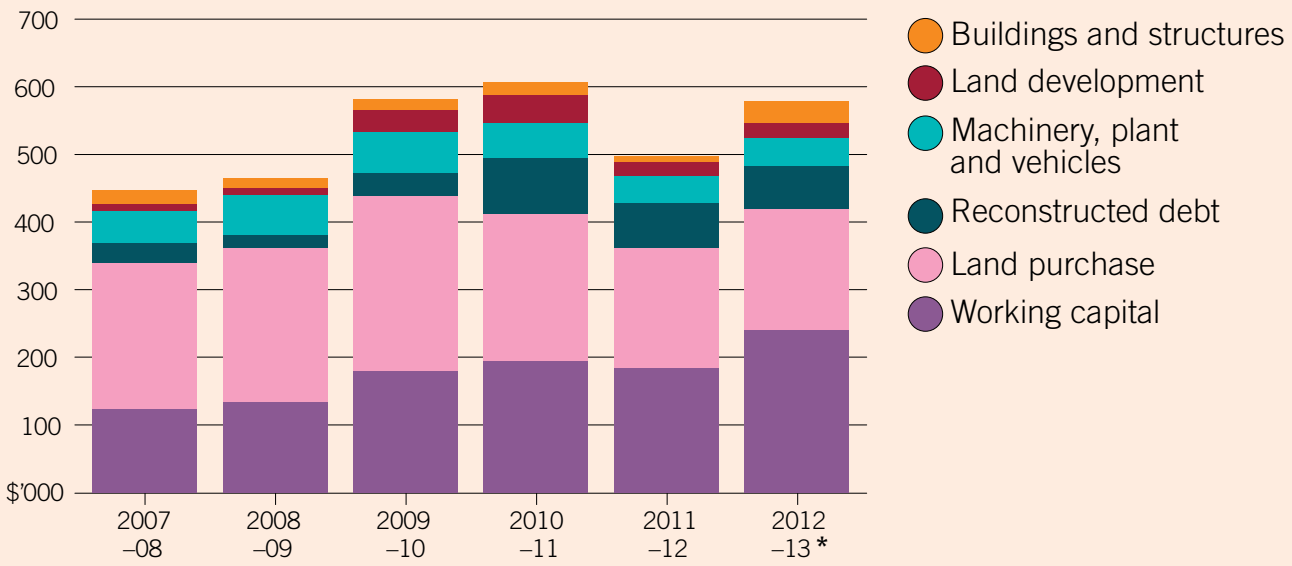
Graph 1 - Debt servicing and borrowing capacity, Australian vegetable growing farm businesses, 2005–06 to 2012–13 per cent of farms



*Preliminary estimate.
Note: The equity ratio is expressed as a percentage of farm capital, and is an average per responding farms. Results are not available for the 2013–14 projection year.
Source: ABARES Australian vegetable growing farms survey



Graph 2 - Composition of farm business debt, Australian vegetable growing farm businesses, 2007–08 to 2012–13 average per farm



*Preliminary estimate.
Note: Financial results are expressed in 2013–14 dollars. Farm debt results are not available for the 2013–14 projection year.
Source: ABARES Australian vegetable growing farms survey

which contributes close to $4 billion annually to the Australian economy and employs thousands of workers nationally.

Better than average growing conditions have also had an effect on returns for growers, with above average seasonal conditions in 2013-14 maintaining high crop yields and higher vegetable production. However, potential returns for growers have been offset by a saturated market, which has led to lower prices for most vegetables by around three per cent.

Despite vegetable cash receipts increasing by eight per cent from 2012-13, compared to cash costs increasing by only six per cent, other cash receipts have decreased by 20 per cent. This has led to average farm income falling by an estimated six per cent while profits have been estimated to fall by 25 per cent.

State comparison

Estimated vegetable cash receipts in 2013-14 compared to 2012-13 increased in all states. New South Wales had the largest increase in receipts, with a 15 per cent rise, while Victorian and Western Australian receipts rose 11 per cent and 10 per cent respectively.

Estimated farm cash income in 2013-14 compared to 2012-13 also increased in New South Wales, Victoria and Western Australia, but fell in all other states. Victorian cash income increased the most in the time period, with a 25 per cent increase, compared to New South Wales and Western Australia showing a 13 per cent increase and 20 per cent increase respectively. Queensland, South Australian and Tasmanian income fell by 81 per cent, one per cent and 31 per cent respectively.

Grower debt

The ABARES report shows that growers are spending a higher proportion of farm receipts repaying debt, increasing from 3.2 per cent in 2005-06 to around 4.9 per cent in 2012-13.

While debt is an important source of funding for ongoing farm capital and investment for vegetable growing businesses, the increased average farm debt is a result of increased borrowing and a reduced rate of principal repayment. Compared to 2005-06, an increase in debt attributed to land purchases has decreased, while debt attributable to working capital has increased. It is both riskier and more expensive for growers to pay for working capital with debt, as it leads to higher interest repayments.

The redistribution of debt towards working capital means growers are using debt to cover day-to-day costs rather than investing in infrastructure and capital equipment that could bring long-term beneficial returns to growers' operations. From 2012-13, most debt was attributed to working capital (42 per cent) and land purchases (31 per cent). Remaining debt was attributed to other expenses, including infrastructure, land development, machinery, reconstructed debt and vehicles.

Conclusion

The report shows that Australian vegetable growers are becoming increasingly burdened by rising production costs and high levels of debt. Growing conditions were above average last year, but this did not translate into profits for growers.

Debt levels among growers is rising, and the proportion of growers with both high levels of debt and relatively low levels of total equity is rising. The data from the report shows the financial situation for the average vegetable grower is becoming dire, with increasing levels of debt and less opportunity for business development and investment.

THE BOTTOM LINE

- An increase in production costs, in addition to decreasing prices, is affecting growers.
- Grower debt is being increasingly used to finance day-to-day activities rather than being used as an investment for business growth.
- The proportion of operations which have both high levels of debt commitments and relatively low levels of total equity is at the highest since the statistics have been recorded.

For more information please contact AUSVEG:
Phone: (03) 9882 0277
Email: info@ausveg.com.au
Project Number: VG12078

This project has been funded by Horticulture Innovation Australia Limited, using the national vegetable levy and funds from the Australian Government.

with Scott Mathew

ROOT-KNOT NEMATODES ARE A TROUBLESOME PEST FOR VEGETABLE GROWERS TO MANAGE. SYNGENTA TECHNICAL SERVICES LEAD SCOTT MATHEW PROVIDES SOME USEFUL TIPS TO SOME OF THE MOST COMMONLY ASKED QUESTIONS REGARDING THE CONTROL AND MANAGEMENT OF ROOT-KNOT NEMATODES.

Recently I was lucky enough to visit some of the Syngenta Commercial Evaluation sites* for the new Syngenta nematicide for the control of Root-knot nematodes (*Meloidogyne spp.*) in cucumbers. While investigating the sites there were a few recurring questions raised by the growers, including: "Even though nematodes may be present, why don't I see more obvious signs of damage?"

Root-knot nematodes do not produce any specific above-ground symptoms in plants, but rather cause crop losses by creating stunted, unproductive plants. This stunting is caused by direct feeding damage, use of carbohydrates, disruption of root system architecture, transmission of viruses and creation of root-rot complexes. Severe root damage caused by nematodes can however result in above-ground symptoms and includes stunting and yellowing of leaves.

One of the major hidden costs associated with nematodes feeding on the root system of the plant is that many growers need to increase their water and fertiliser frequency and volume to compensate for the damage being caused to the root system.

What are the benefits of controlling Root-knot nematodes?

By controlling nematodes you may see major economic benefits including:

- Increased yields (increased fruit set and fruit development).
- Longer cropping cycles (plants will produce crops for longer periods).
- Improved crop quality.
- Decreased water and fertiliser costs due to a reduction in the frequency and amount required.

What are some of the hosts of Root-knot nematodes?

There are three main Root-knot nematode species of concern in Australian horticulture: *Meloidogyne javanica, M. incognita* and *M. hapla*. All Root-knot nematodes species have a wide host range and most plants are able to host at least one species. Many important fruit, vegetable and ornamental crops are good hosts of these nematodes, including:

- Banana, cucurbit, grape, carnations, passion fruit, nectarine, capsicum, chilli, bean, kiwifruit, chrysanthemum, pineapple, tomato, carrot, egg fruit, strawberry, rose, peach, celery, ginger, lettuce, papaya, cotton and pumpkin.
- In general, members of the grass family are less susceptible than other plants to Root-knot nematodes.

What are some of the management strategies I can put in place to reduce the impact of Root-knot nematodes?

Nematode management requires long-term planning. There are currently no control practices that will permanently eradicate them, although there are a range of practices that can help manage the situation. These include:

1. Site selection (have the soil tested for nematodes before planting).
2. Good hygiene practices.
3. Crop rotation.
4. Resistant varieties.
5. Fallowing.
6. Reduce other plant stresses (e.g. water and nutrition).
7. Look at growing suppressive crops.
8. Soil solarisation.
9. Chemical control (Syngenta is working on new age nematicide in Australia).

**Grower trial sites using a new nematicide under an approved Australian Pesticides and Veterinary Medicines Authority (APVMA) trial use permit.*

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

Veggie Stats: Pumpkin

R&D
Drive Train

TO ENABLE DEEPER INSIGHTS INTO THE FINANCIAL, PRODUCTION AND EXPORTING PERFORMANCE OF KEY AUSTRALIAN VEGETABLE PRODUCTS, WE HAVE DEVELOPED A SERIES OF SIX CROP-SPECIFIC VEGGIE STATS PROFILES. THE FOURTH INSTALMENT OF THIS SERIES WILL FOCUS ON PUMPKIN PRODUCTION.

The following Veggie Stats article has been developed specifically to give readers a detailed snapshot of the key facts and figures on pumpkin. Veggie Stats utilises data from the Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES) and the Global Trade Atlas, funded by Horticulture Innovation Australia Limited (HIA) 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 pumpkin growers and should be interpreted carefully. In addition to this, the information provided is not specific to every Australian grower since each enterprise operates differently from one another.

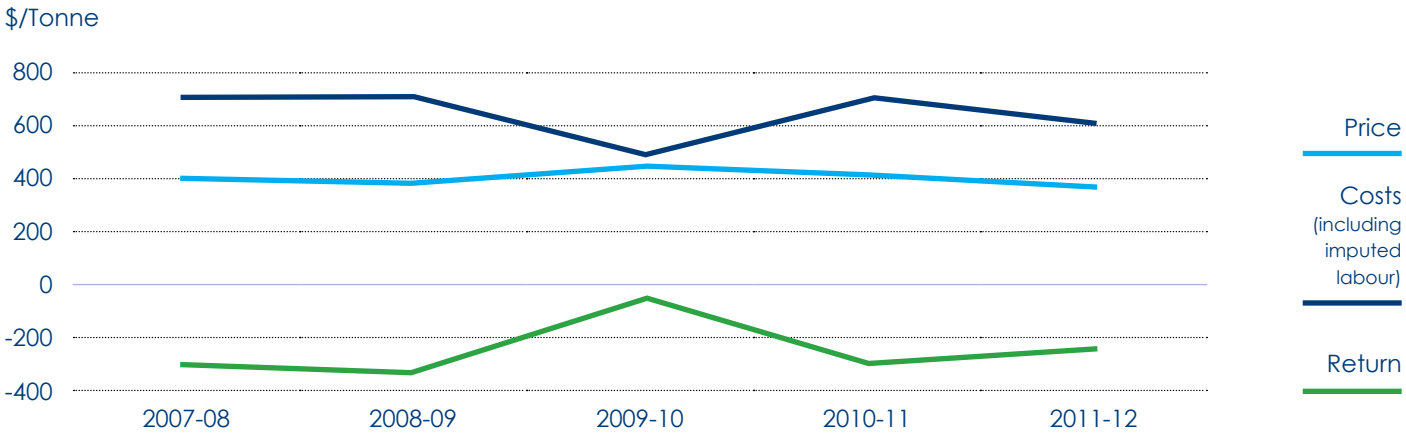
The data is presented at the national level and therefore does not account for differences among jurisdictions.

VEGGIE STATS: PUMPKIN

Pumpkin Production – Key facts and figures

- Pumpkin growers, on average, have been experiencing losses since 2007-08.
- Since 2007-08, average domestic pumpkin prices have fallen by 9%, whilst average costs have fallen by 15%.
- Pumpkin production has been falling on average since 2008-09 and reached its record low level of 92 tonnes in 2011-12.
- Pumpkin, squash and gourd exports totalled more than $2 million in value in 2012-13. More than half of these exports were sent to Singapore.

Australian Pumpkin Growers' Financial Performance (average per farm)



Source: ABARES vegetable farm survey 2011-12 and 2012-13, page 69
Returns: The difference between price and costs (including imputed labour).

Current Financial Performance

Australian pumpkin growers' averaged a loss of $235 per tonne in 2011-12, an improvement of 23% on the previous year.

In 2011-12, the average price received per tonne of pumpkin was $375, whereas the average cost to produce a tonne of pumpkins was $610.

Long Term Trends

Pumpkin growers' on average, have experienced annual losses since 2007-08.

This project has been funded by HIA Ltd. using the National Vegetable Levy and funds from the Australian Government.

Horticulture Innovation Australia

AUSVEG

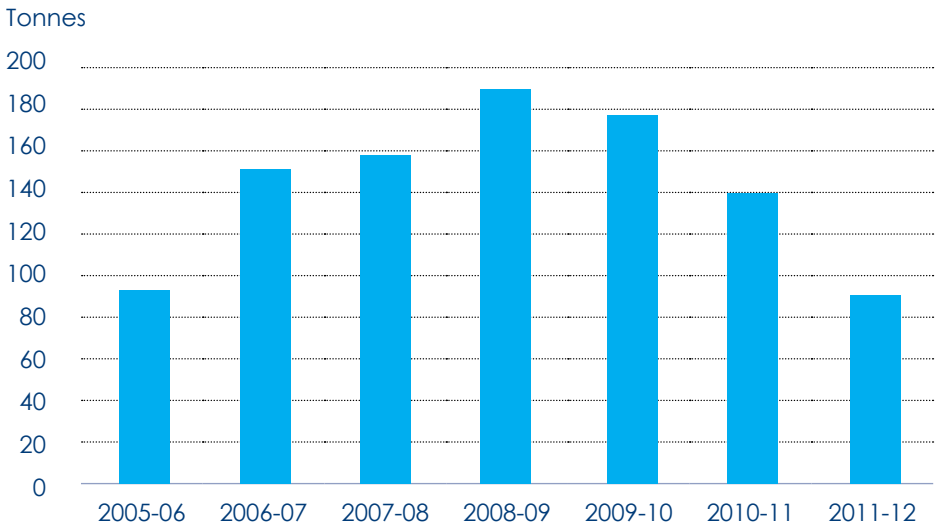
Australian Pumpkin Growers' Production (average per farm)

Australian Pumpkin Production

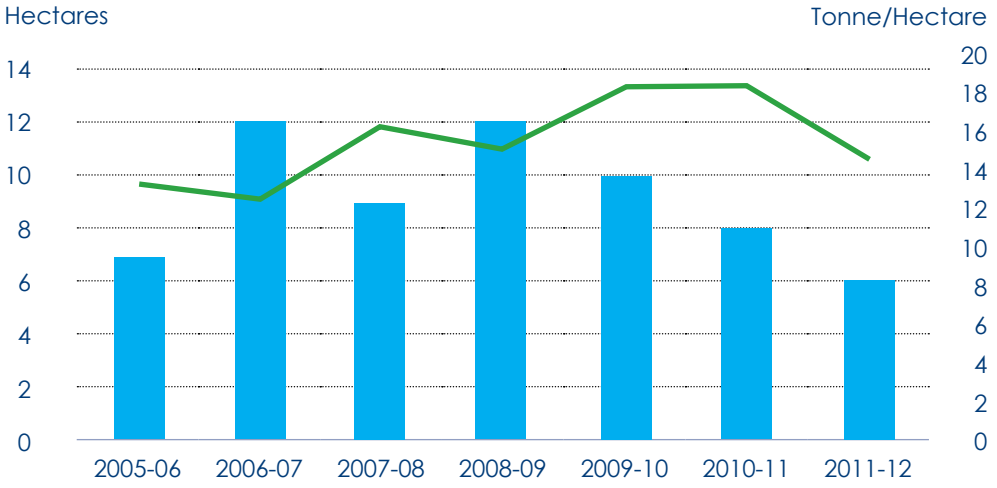
Australian pumpkin production averaged 92 tonnes in 2011-12, down 34% on the previous year.

Average farm pumpkin production has fallen by 52% since 2008-09.

Source: ABARES vegetable farm survey 2011-12 and 2012-13, page 69



Area Planted v Yield (average per farm)



Australian Pumpkin Production

The average area planted in 2011-12 fell by 25% from the previous year.

In 2011-12, pumpkin growers' average yields also declined by 21% at 15 tonnes per hectare.

Area Planted

Yield

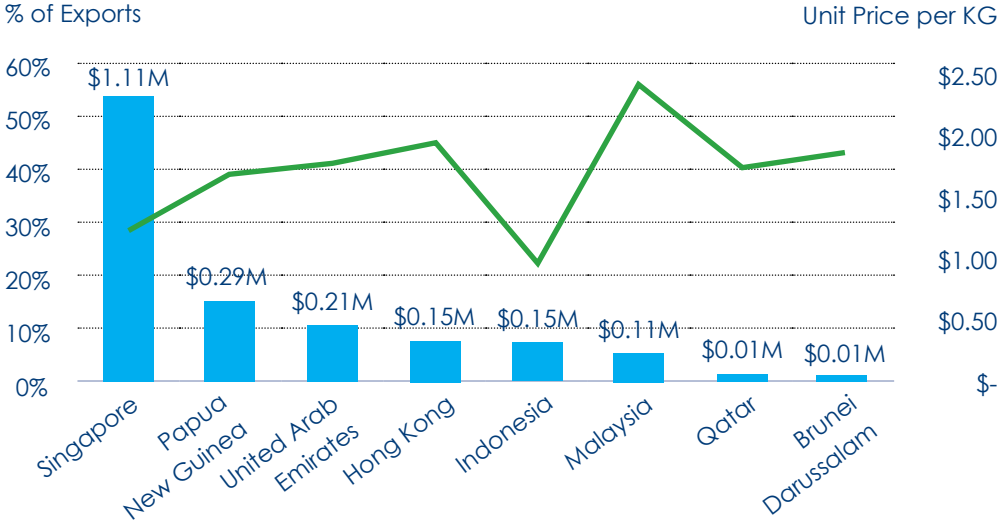
Source: ABARES vegetable farm survey 2011-12 and 2012-13, page 69

Australia's Pumpkin, Squash and Gourd Exports and Export Prices Received

Exports

The majority of Australia's pumpkin, squash and gourd exports were sent to Singapore in 2012-13.

Australia's pumpkin, squash and gourd exports received the highest export price per kg from Malaysia, whilst the lowest export price was Indonesia at $0.94 per kg.



Source: Global Trade Information Service, sourced from Australian Bureau of Statistics International Trade data, various years

Q&A Young grower profile

Name: Jarryd Janke and Corey Weier
Age: 30 and 35
Location: Gatton, Queensland
Works: Rugby Farm
Grows: Sweet corn, baby corn, green beans, broccoli, baby broccoli, cauliflower, iceberg lettuce, Chinese cabbage and a variety of mini cabbage.

How did you first become involved in the vegetable industry?

Jarryd: It's in my DNA. My family settled in the Lockyer Valley as farmers and I have been involved in the vegetable industry since I could walk. Even in these tough economic times I would have no hesitation in recommending a future for the next generation within the vegetable industry.
Corey: Born and raised on a vegetable farm in the Lockyer Valley, I've always been exposed to the industry. After completing my studies, I found myself following a different path in hospitality management. Several years later an opportunity arose for me to manage a local produce packing facility and therefore pursue a career in the vegetable industry.

What is your role in the business?

Jarryd: Harvesting/Marketing Coordinator. Simply put, managing the crop from harvest onwards. The major component of my position is making sure the business fulfils

Photographs by Rowena Dione Photography.

supply commitments and deals with excess volumes in the most organised and profitable manner.
Corey: After eight years of working in the industry, I was employed by Rugby Farm in 2011 as Packing Shed Manager. I have spent this time being heavily involved with some major changes within Rugby Farm's packing facility. I also play a role as Broccoli Harvest and Marketing Coordinator, ensuring quality and quantity of the product is maintained before it reaches its final destination.

How would you describe your average day at work?

Jarryd: The calm before the storm. Most days when the operation runs according to plan and there is good demand for quality products, my position is easily managed. But with farming there are many elements that can change overnight to make for more trying circumstances.
Corey: My average day begins at 5am, where I assess orders, check produce quantity and quality. I also ensure that all broccoli harvest and packing shed supervisors, quality assurance staff, forklift drivers and general packing staff are organised to fulfil the daily packing requirements. Other aspects of my day involve liaising with local and interstate market agents and communicating with our transport company to ensure all produce is delivered accordingly. In any remaining time, I deal with continual improvements to the packing shed facility and staff management.

What do you enjoy most about working in the vegetable industry?

Jarryd: I enjoy watching the crops go through their various stages of growth, resulting in a high quality marketable product. It is an added bonus that I get to spend most of my life outdoors.
Corey: Given the nature of our ever-changing industry, I enjoy the challenge of adapting to change and continually learning new skills to support business innovation. Also, acknowledging the fact that we're producing top quality produce and supplying it to families throughout Australia.

What are some of the biggest challenges you face as a grower?

Jarryd: Sustainability through better staff training and the use of automation, high quality growing practices and improving land management strategies while still remaining profitable in tough economic times are major challenges confronting growers in the vegetable industry, both large and small.
Corey: Weather plays a vital role in the growth and development of a product; therefore, changing weather patterns can make it challenging to meet order requirements. Also, seasonal activity means a high turnover of staff, which finds us continually training new personnel to ensure quality products are delivered.

How do you think more young people could become encouraged to take up jobs in the vegetable industry?

Jarryd: We need to publicise the bright future within the vegetable industry. The industry could create a partnership with high schools where apprenticeships and traineeships can be part of the curriculum teaching higher skills that will benefit the vegetable industry and community as a whole.
Corey: The vegetable industry needs to inspire the younger generations by establishing resources to educate them. This could be achieved through more focus on televised publicity, websites and social media aimed at secondary and tertiary students.

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

Jarryd: I was always going to be on the land, but being a professional sportsman – in particular, bull rider – would be something I could get used to.
Corey: As I am a keen fisherman, the recreational and commercial fishing industry has always intrigued me. However, growing up and living in the Lockyer Valley, I have been given great opportunity in the vegetable industry.

Where do you see yourself in five years?

Jarryd: Higher up the food chain. I would like to explore other avenues within the Rugby Farm business as well as expanding my own property portfolios with the view to becoming a leading stud cattle producer.
Corey: Making advancements at Rugby Farm within the packing shed facility, supporting new business innovation in machinery and equipment, as well as continual improvement of all packing shed supervisors, quality assurance staff and general staff training to ensure an exciting future for the next generation.

Weather the storm with the latest technology

WORKING WITH – AND SOMETIMES AGAINST – MOTHER NATURE IS JUST ONE OF A FARMER'S MANY CHALLENGES. IN LIGHT OF THIS, A NEW RESEARCH PROJECT IS CURRENTLY UNDERWAY TO PRODUCE MORE ACCURATE AND DETAILED WEATHER FORECASTS SO VEGETABLE GROWERS ARE BETTER PREPARED TO MAKE KEY DECISIONS ON THEIR FARMS. RACHEL WILLIAMS EXPLAINS.

Weather: it's a subject every farmer takes very seriously.

Soon, farmers across the country will have access to more detailed and locally relevant weather information – a tool to assist with their planning, weeks to seasons ahead.

The Bureau of Meteorology (BOM) and CSIRO, in collaboration with a number of Australian universities and several international organisations, are developing a new version of their seasonal prediction system – POAMA-3 – to improve forecast accuracy. It's based on a new national modelling system called Australian Community Climate and Earth System Simulator (ACCESS), which is already in use for seven-day weather forecasts.

The project, funded by Horticulture Innovation Australia Limited (HIA) using the National Vegetable Levy and funds from the Australian Government, will evaluate the impact of the improvements of POAMA-3 for regions and timescales relevant to the Australian vegetable industry. The overall aim is to provide improved spatial and temporal forecasting in regions of interest to vegetable growers.

BOM Senior Research Scientist and Project Leader Dr Debbie Hudson said that, given all projections for Australia indicate a more variable climate, the new information will lead to tangible benefits for Australian agriculture.

"More accurate forecasts with increased regional detail will pave the way for a new generation of climate services available for both vegetable growers and managers of horticultural supply and demand chains," she said.

More accurate forecasts for growers

A key benefit of the project for those on the land will be an improved ability to forecast climate extremes, such as heat waves, flooding and frost risk.

"(It will be) opening the door to a whole suite of new potential forecast products that are currently not available to farmers," Dr Hudson explained.

"Accurate forecasts over a range of timescales would help farmers remain flexible and bring both environmental and economic benefits, by informing farm management decisions such as when to plant or harvest, when or whether to apply fertiliser and for irrigation scheduling."

Dr Hudson added that continual improvement to the forecasting model is essential to take advantage of new atmospheric and oceanic knowledge, new observational data and significant advances in computer technology.

In this case, the existing model, POAMA-2, uses a resolution of about 250km by 250km. POAMA-3 could improve spatial resolution down to a range of 75-150 kilometres.

"At these resolutions the model will be able to, for example, differentiate between the climates of western and eastern Tasmania and will better represent the Great Dividing Range, which plays a key role in the spatial distribution of rainfall," Dr Hudson said.

Tropical Cyclone Fay near Western Australia in 2004.

Bureau of Meteorology Senior Research Scientist Dr Debbie Hudson.

"Increased resolution will also improve the representation of important large-scale climate drivers like ENSO (El Niño Southern Oscillation), potentially leading to better multi-week and seasonal forecast accuracy over Australia."

Ongoing collaboration

According to Dr Hudson, the improvement was not possible a few years ago because the computing power was not available.

"There has been a clear increase in weather forecast accuracy over the last 40 years. A four-day weather forecast now has about the same accuracy as a one-day forecast had in the 1970s," she said.

"With the continual improvement of POAMA and access to more powerful computing systems, we expect to see a similar gradual increase in the accuracy of multi-week and seasonal forecasts."

Farmers will also play a role in developing the final configuration of POAMA-3.

"Farmers and end-users help us to focus our evaluation on the regions, times of year and lead times that are critical to them," Dr Hudson said.

"We can also use farmers' suggestions in developing our experimental forecast products – help to tailor and guide the presentation of a product so that it is clear, understandable and useful for the farmer."

Scientists have been working on the program for the past six months with completion expected in early 2017.

Satellite image courtesy of Jeff Schmaltz, MODIS Rapid Response Team, NASA/GSFC.

For more information on the project, contact BOM Senior Research Scientist and Project Leader Dr Debbie Hudson at d.hudson@bom.gov.au. Project Number VG13092

EnviroNews

www.enviroveg.com

Streamlining bills can save you money

While the cost savings that can be found by increasing the efficiency of energy use on a farm has been covered in previous editions, we have not yet looked at how savings can be found by communicating directly with your supplier.

One of the key findings to come out of the recent levy-funded *Economic evaluation of farm energy audits and benchmarking of energy use in vegetable farms* project (VG13054) was that growers have too many energy accounts in their businesses. A typical manufacturing operation might have one or two accounts, but vegetable growers can have up to 20 different accounts covering electricity, gas and diesel.

Individual meters at multiple irrigation pumps, packing plants and other on-farm facilities result in complex accounts. In addition, growers expanding their businesses by purchasing more land are also inheriting the energy supplies if the property has previously been used in agriculture. This results in having to deal with a range of electrical supplies for each property, making it significantly more complicated and expensive for the business owner.

A solution

Combining multiple bills can help you to save money as administration costs are reduced for a single account. Additionally, subscribing to digital-only services and automated direct-debit payments can further reduce these fees. Some new plans even give you a discount for paying on time. Talking to your energy supplier(s) will help you to determine which scenarios are going to be most relevant for your operation.

Some energy suppliers now provide online resources that allow you to view and monitor your energy usage during your current billing cycle. These facilities can be used to adjust your practices and see how any changes you make affect your energy consumption day-to-day.

Plan for 2015 with EnviroVeg

At EnviroVeg we plan to make 2015 a record year for grower involvement in the program. Why? Because active EnviroVeg growers are able to reduce their operating costs and maintain the health of their property. These are the ways in which you can get involved.

1. Assess yourself
Go online and complete a Self-Assessment in less than 30 minutes. Self-Assessments provide both a benchmark for your environmental performance and highlight areas where you can make simple improvements. You don't need to get any documents ready – just log in to the EnviroVeg website and click on the Self Assessments tab. Otherwise, contact the AUSVEG Environment Coordinator as they may be visiting your region soon.

2. Action plans
Are you planning to fix a leak in your irrigation or install solar panels on your roof? Almost anything can go into an Environmental Action Plan for your property, from simple fixes to large-scale equipment upgrades. Therefore, the purpose of your plan is to show continual improvement. They take even less time to complete than your Self-Assessment.

3. EnviroVeg Gold
If you received over 85 per cent on your Self-Assessment and completed an Environmental Action Plan, then you are eligible to be an EnviroVeg Gold member. We'll send you gate signage and a certificate that demonstrates to the community that you are a responsible grower. Go online to find the Environmental Action Plan template, which you can return to the Environment Coordinator (see details below).

4. EnviroVeg Platinum
Belonging to the highest tier of the EnviroVeg program allows you to display the EnviroVeg logo on your own packaging. This means your customers will know that you are producing the highest-quality vegetables in the most sustainable way and your produce will be favoured by the environmentally-conscious consumer.

For more information, contact the AUSVEG Environment Coordinator on (08) 8221 5220 or info@ausveg.com.au.

Soil carbon is key to crop health

SOIL ORGANIC CARBON IS A DRIVER OF SOIL HEALTH AND CRITICAL FOR BUILDING A RELIABLE AND SUSTAINABLE FARMING SYSTEM. INNOVATIVE GROWERS AROUND THE COUNTRY ARE ALTERING THEIR PRACTICES TO REBUILD SOIL CARBON, WHICH IS PRODUCING RESULTS. TIM O'GRADY, BAYER BUSINESS DEVELOPMENT MANAGER IN SOUTHEAST QUEENSLAND, EXPLAINS.

The demands of intensive vegetable production create challenges to maintain and build soil carbon, which is typically low in Australian vegetable production regions.

Encouraging soil microbial activity is essential for fixing carbon, but in many cases traditional land practices have been detrimental to this process. However, building soil carbon can be encouraged by altering existing practices.

This includes reducing tillage intensity, introducing multi-species cover crops, applying compost and balancing nitrogen inputs.

Tillage

The more a soil is disturbed by tillage, the greater the breakdown of organic carbon by soil organisms. Zero tillage is not practical in many vegetable crops due to the needs for a fine seed bed preparation free of surface residues. However, the impact of tillage on oxidising soil carbon can be restricted by limiting the amount (controlled traffic) and severity of tillage and by using new, less-aggressive equipment that reduces damage to the soil aggregates.

Growers who have invested in less aggressive tillage systems have observed changes to soil tilth and earthworm activity within a relatively short period of time.

Cover crops and compost

The use of cover crops to build soil health is not a new concept. However, there has been a great advancement in the understanding of the role of different species and combinations of cover crops that provide the greatest boost to soil organic carbon.

Some innovative growers are planting multi-species cover crops, including grasses and legumes in combination, due to the benefits received over planting just a single species. The selection of cover crop combinations is a complex decision and highly specific to the needs of each farming system. It's important to have year-round green 'cover' to support microbial populations.

Compost is an important way to increase stable soil carbon. Many growers are now well-versed in using compost and have developed their own on-farm thermal compost systems using locally-sourced materials, often including green waste, animal manures and packing shed waste. These growers have seen excellent quality and yield attributes, and greater resilience of the farming system under adverse weather.

Balancing N inputs

Evidence suggests that although nitrogen is essential to plant growth, the application of large amounts of nitrogen as inorganic fertiliser is detrimental to building soil carbon.

The more nitrogen fertiliser applied, the less nitrogen is fixed by natural processes. Reducing the amount of inorganic nitrogen applied can help these natural processes return.

Vegetable growers realise soil functions do not change overnight, but they have adopted cover crop and compost systems with the view to monitor and reduce inorganic nitrogen input over time.

The bigger picture

Bayer CropScience is investing heavily in developing best-management guidelines for soil health. It is working closely with leading growers in order to develop both biological and synthetic crop protection products that complement a productive and sustainable farming system.

Bayer staff are currently heavily involved in local testing of biologically-based products that are designed to work in conjunction with new soil management tactics in improving soil biology. These products will aid growers in taking advantage of natural processes to increase soil health and support sustainable yields into the future.

EnviroVeg

Maintaining an environmental conscience

THE SHOKER FAMILY HAS BEEN FARMING IN THE COFFS HARBOUR REGION FOR 24 YEARS AND, OVER TIME, THE VEGETABLE, BANANA AND AVOCADO GROWING OPERATION HAS BECOME MORE ENVIRONMENTALLY FRIENDLY. PAUL SHOKER SPEAKS TO *VEGETABLES AUSTRALIA* ABOUT THE BENEFITS OF BEING A RESPONSIBLE GROWER AND HIS RECENT ADDITION TO THE ENVIROVEG COMMITTEE.

Paul Shoker's property is located in the rapidly evolving Coffs Harbour area, which he describes as the 'Goldilocks zone' – where the temperate region is not too hot and not cold enough to require heating in the winter months. He thinks this might be the reason why growers are expanding in the region, with one local grower planning to install approximately seven hectares of greenhouses over the next six months.

Paul might only be 26 years old, but he is something of an old-hand locally, and he is conscious of the way his practices have become greener over the years. He started off by growing tomatoes in low-tech polytunnels and after a few years, Paul's family swapped to Lebanese cucumbers and upgraded to multi-span tunnels that were structurally taller and included insect screening, which allowed for controlled ventilation using fans and vents.

These days the operation features temperature, humidity, rain and wind sensors to provide an overall picture of the conditions the crops are experiencing. The fertigation system also incorporates a light sensor that increases the farm's water efficiency and allows Paul to adjust to changes in salinity and pH.

Improvements pay off

Paul says that while making environmentally-focused improvements on-farm can sometimes have a significant upfront cost, over time the investment is made up in other savings and improvements in yield. Long gone are the days when indiscriminate spraying of non-selective pesticides was a common, yet expensive and time-consuming practice.

"While we aren't quite completely at an IPM level, we have cut down on our chemical use substantially in our higher-grade technology. For example, in our winter crop we sprayed once in three and a half months, when we used to spray once a fortnight in the tunnel-houses."

However, these changes do not just provide economic savings.

"We don't have to worry about withholding periods and it's better for general safety all-round. I also think growers are all fairly time-poor, so any time that is saved by not spraying can be used to do other things."

On-farm returns

Growers these days are looking for ways to return 'waste' and reuse it on their property. In Paul's case, he previously used sawdust in his greenhouses.

"For the last two years we have been using cocoa peat as the growing medium, which after two to three seasons can be recycled as mulch in our banana plantations," he said.

Similarly, while it is not currently viable for Paul to recycle water used in his greenhouses, he is able to harvest the wastewater and use it to irrigate his avocado plantation. Simple measures like these follow a 'no waste' principle that promote the reuse of farm by-products in other areas. This principle can help to reduce the need to source materials externally; in Paul's case, mulch and water.

Communication is key

As the property is situated in an environmentally sensitive area near Coffs Harbour, Paul's thoughts on environmental awareness largely revolve around being a responsible neighbour and custodian of the land.

"As a result of being so close to town, I feel there's a great need to improve our environmental standards. I do believe overwhelming numbers of growers are careful about what they do, but we have a problem about selling ourselves well in this area. There is also the bigger issue in the city-country divide about ideas on what landowners are actually doing in regional areas," he said.

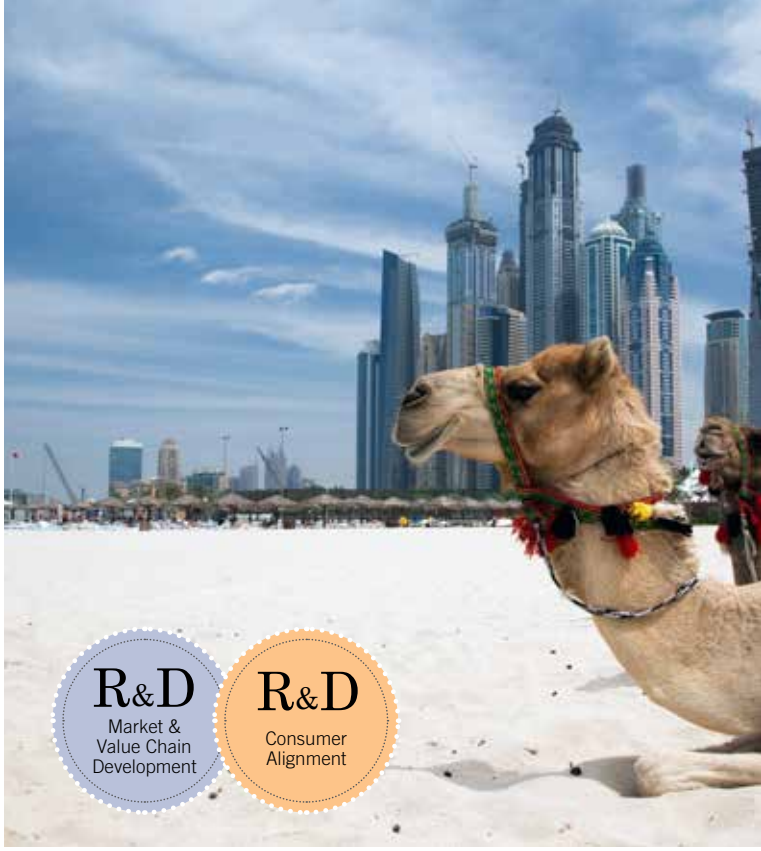
Consequently, Paul sees communication as a key part of the industry going forward.

"I'm fairly active on Twitter, so this helps me to engage with the community at large about what sort of practices growers are up to."

Paul has recently joined the EnviroVeg Committee and looks forward to being part of developing the project and collaborating with other growers in the future.

"I'm looking forward to learning from other producers as it's good to catch up with like-minded growers and see how I can incorporate other ideas into my property."

Photographs by Steve Young.



Export opportunities continue to develop in 2015

AUSTRALIA'S INVOLVEMENT IN A SUITE OF NEW FREE TRADE AGREEMENTS WILL BEGIN TO TAKE SHAPE IN 2015, AS WELL AS THE ONGOING OPPORTUNITY TO EXPORT TO THE UNITED ARAB EMIRATES.

Last year Australia successfully entered into three new free trade agreements with key economic partners. The most widely publicised agreement was the new China-Australia Free Trade Agreement (ChAFTA). While agreement negotiations concluded on 17 November 2014, the final text of the agreement is yet to be finalised. However, when the agreement enters into force it is expected that horticulture exports will benefit from reduced tariffs.

Key to understanding how a free trade agreement will benefit industry is understanding that free trade agreements do not equate to market access. Unfortunately, in the case of China, fresh vegetables have very limited market access to mainland China; despite the new FTA, this will remain the case. The good news is that demand in China for fresh, safe and high quality Australian produce exists and once access can be successfully negotiated exporters will reap the rewards of eliminated tariff entry.

Horticulture, specifically vegetables, were big winners in the new ChAFTA with tariffs on all vegetable products to be phased out over four years from the date of implementation. This is great news for exporters as the ChAFTA will provide parity between the duties faced by Australian produce and the duties imposed on key competitors such as Chile and New Zealand – both of whom currently have a free trade agreement with China.

Free trade successes were not only limited to China, as successful negotiations were also completed with Japan and the signing of the Japan-Australia Economic Partnership Agreement (JAEPA) occurring on 8 July 2014. Further, the Korea-Australia Free Trade Agreement (KAFTA) entered into force on 12 December 2014, just a little over 12 months after initial negotiations were concluded. A summary of the key outcomes for ChAFTA, JAEPA and KAFTA is included in Table 1.

Australia currently has eight free trade agreements in force, plus an additional two agreements that are concluded but not yet in force (China and Japan).

Exporting to the UAE

Due to the lack of agricultural capacity, the United Arab Emirates (UAE) is reliant on food imports – which make up approximately 70 per cent of food requirements. Further, due to its strategic location, the UAE is a major re-export hub and a significant link in the supply chain to the greater Middle East. Reliance on food imports and a rising income provides Australian vegetable exporters with an excellent opportunity to capitalise on this growing market.

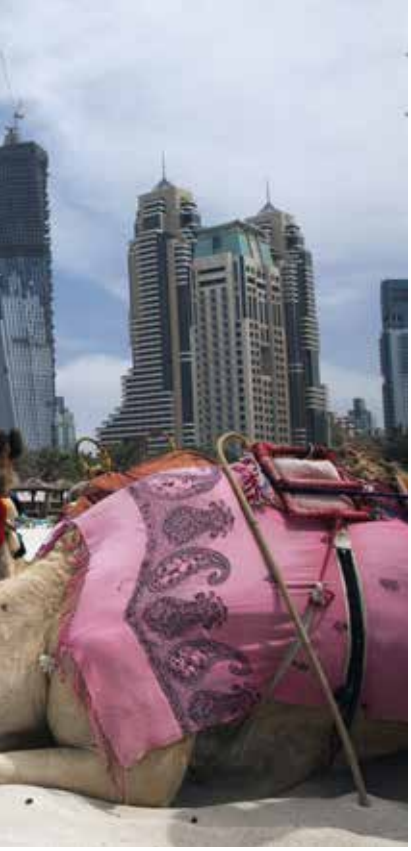
Trade in the United Arab Emirates is competitive due to liberalised trade policies, meaning that exporters who wish to be successful in the market need to form strong trading relationships. This can be difficult due to the different business environment in the UAE. Some do's and don'ts for conducting business in the UAE are:

- Understand the importance of 'small talk'. This is vital to introductory business conversations.
- Always accept refreshments. Refreshments are offered to guests in order of their rank.
- You will normally be expected to initiate your proposal. It is unlikely your host will begin business discussions.
- A 'yes' does not always mean your proposal or agreement is confirmed.

Over the past five years Australian vegetable exports to the United Arab Emirates have increased by 41 per cent. The primary vegetables exported to the UAE are carrots, potatoes, broccoli and pumpkin. In 2012-

Table 1

Agreement	Commodity	Current tariff	Agreement outcome
ChAFTA	Fresh vegetables	10-13 per cent	Phase out of tariff in equal annual stages over four years
JAEPA	Carrots, leeks, shallots, broccoli, cabbage, spinach, capsicum, pumpkin	3 per cent	Immediate elimination of 3 per cent tariff on entry into force
KAFTA	Carrots	30 percent or 134 won/kg (whichever is greater)	Phase out of tariff in equal annual stages over five years
KAFTA	Potatoes (for chipping, fresh or chilled)	Up to 304 per cent (where quota exceeded)	For goods entering into Korea from 1 December through 30 April, customs duties shall be eliminated and such goods shall be free of customs duty upon agreement's entry into force



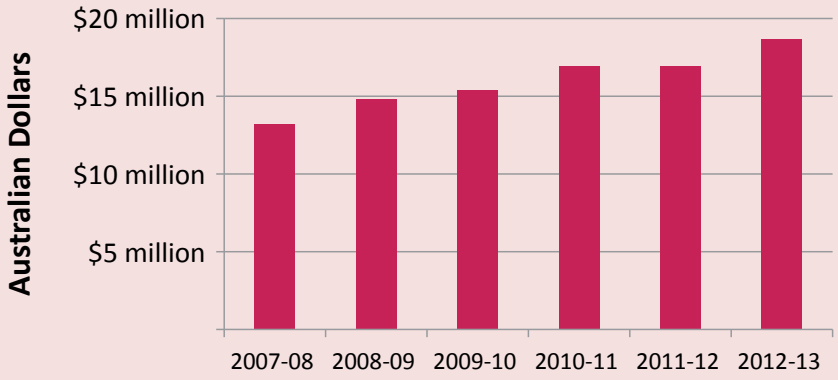
13 Australian vegetable exports were worth $18.6 million and the United Arab Emirates was Australia's fourth largest export market.

Export Events Calendar

28-29 January 2015
Adelaide
Malaysia and UAE Export Symposium

25-27 June 2015
Jupiters Gold Coast
National Convention, Trade Show and Awards for Excellence

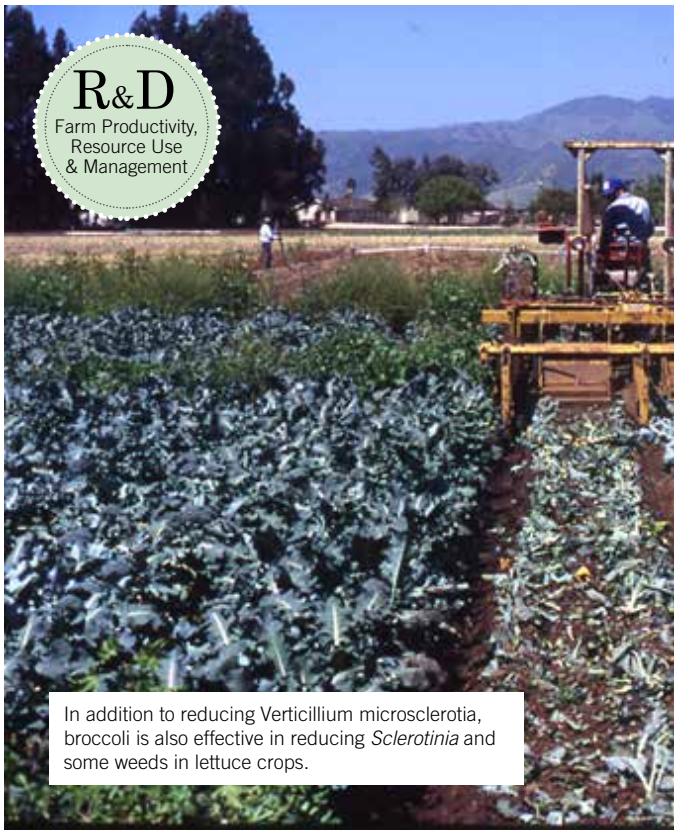
Australian vegetable exports to the United Arab Emirates



International research on show in Tasmania

A SUBSTANTIAL INCREASE IN THE DEMAND FOR PRE-PACKAGED SALAD IN THE UNITED STATES HAS ALTERED PRODUCTION PRACTICES FOR LETTUCE, WHICH HAS ULTIMATELY LED TO UNEXPECTED DISEASE ISSUES. AS RACHEL WILLIAMS REPORTS, NEW RESEARCH HAS SHOWN THAT USING BROCCOLI AS A ROTATION CROP CAN HELP REDUCE SOIL DISEASE LEVELS IN AMERICAN LETTUCE PLANTATIONS.

R&D
Farm Productivity, Resource Use & Management



In addition to reducing Verticillium microsclerotia, broccoli is also effective in reducing *Sclerotinia* and some weeds in lettuce crops.

International researcher and Plant Pathologist Krishna Subbarao, from the University of California – Davis, visited Tasmania in November 2014 to speak at the 8th Australasian Soilborne Diseases Symposium in Hobart and also at a workshop hosted by the Tasmanian Institute of Agriculture (TIA) at Forthside Research Farm in Forthside.

His presentations focused on disease issues in lettuce crops in the United States and how the use of broccoli as a rotation crop could potentially stem the problem. He also noted the role of humans in the spread of the disease.

"What I discussed was unique in that the activities of humans is not restricted to the movement of the pathogens alone," Mr Subbarao said.

"Humans are also consumers, producers and marketers. How humans in these roles have the potential to affect diseases is what I examined in my research."

The issue first came to light in the 1990s when ready-to-eat salad was introduced to increase vegetable consumption in the United States. Demand grew substantially and boomed from a $300 million industry to one that was worth $6 billion.

"This led to altered production practices, from the traditional two rows on one metre centre beds to six rows of lettuce or other vegetables on two metre centre beds and the increased production of spinach," Mr Subbarao said.

"These two fundamental changes in production were responsible for either increased disease incidence of lettuce drop caused by *Sclerotinia sclerotiorum* in coastal California where it is usually not a problem, and lettuce becoming a host of Verticillium wilt."

Research focus

Verticillium wilt is a disease caused by the fungus *Verticillium dahliae*. The water conducting tissue in infected plants gets plugged up, because the fungus enters this tissue, causing wilting. The fungus attacks more than 200 plant species. It produces resting structures called microsclerotia that can remain viable in the soil for up to 14 years.

Mr Subbarao said that even though lettuce had been grown in coastal California for nearly 100 years and *V. dahliae* was present in the soils, the disease had not affected lettuce.

"I discovered that increased spinach production led to the disease appearing on lettuce," he explained.

"Spinach seed is only produced in northern Europe and Washington State in the US because it requires 16-18 hours of day length to flower and produce seed. California supplies 80 per cent of the fresh market spinach in the US, importing all spinach seed from those two areas. Most of this imported seed, however, also carries *V. dahliae*.

"My research clearly established that the fungus on imported seed was the initial cause of the disease on lettuce. Thus, the consumer demand for ready-to-eat salad mixes led to growers increasing spinach production. The fungus carried on spinach seed in turn was the cause of the disease in lettuce. With a rate of eight to nine million seeds per hectare commonly used in spinach production now, introduction of large quantities of *V. dahliae* microsclerotia occurs with each spinach crop in these fields.

"Because of the tremendous value addition that ready-to-eat salads bring to the growers, they are unlikely to stop or reduce spinach production but will have to confront Verticillium wilt on lettuce in the future."

Mr Subbarao's research found that increased spinach production led to the presence of the disease *V. dahliae* appearing on lettuce.

Plant Pathologist Krishna Subbarao.

L-R: Jason Scott (TIA), Calum Wilson (TIA), Alison Lees (James Hutton Institute, UK), Robert Tegg (TIA), Philip Beveridge (TIA) and Krishna Subbarao (UC-Davis, USA) at the Forthside workshop in Tasmania.

Lettuce drop caused by *S. sclerotiorum*.

Broccoli rotations

Mr Subbarao said that rotations with broccoli residue can help. He made the discovery while surveying affected cauliflower fields and finding that broccoli had no disease.

It was a strategy he discussed with local vegetable growers at the Forthside workshop.

"Following fumigation it is good practice to grow broccoli as often as you can accommodate this crop to keep the soil microsclerotia at low levels," Mr Subbarao explained.

"In addition to reducing Verticillium microsclerotia, broccoli is also effective in reducing *Sclerotinia* and some weeds. Long-term pest management benefits accrue from such a practice. Practicing this rotation over the longer term may also prevent the inoculum build-up, and the need for fumigating these fields may not arise."

Local relevance

Mr Subbarao considers his US-based research as being very relevant to Australian growers.

"In many ways, the vegetable farming systems between the two countries are similar except for the scale of operations," he said.

"If you carefully examine some of the changes in farming that have occurred in Australia, it is highly likely that you would discover similar connections between the role of consumers and growers in affecting diseases of crops in ways we have not previously imagined."

He said growers also need to demand clean seed that does not carry pathogens.

"I think it is not only important to identify and develop novel methods of controlling plant diseases but also to discontinue those that have been proven inadequate and inefficient," he said.

"Thus, deep-plowing that was developed as a method to control soil-borne diseases does not work in areas that have had a long history of cropping and diseases. It is important not to use this energy-intensive practice."

For more information, contact kvsubbarao@ucdavis.edu.
The TIA workshop was part of a project supported by Horticulture Innovation Australia Limited and funded through the National Vegetable Levy and funds from the Australian Government.

Field trials of the DuPont™ Zorvec® Enicad® product were held in Victoria in November 2014.

New player in the fight against Downy mildew

DOWNY MILDEW IS A FUNGAL DISEASE THAT CONCERNS GROWERS OF ALL VEGETABLE COMMODITIES. MANAGING THE DISEASE IS OF UTMOST IMPORTANCE TO GROWERS AS THE CONSEQUENCES OF AN OUTBREAK CAN BE SEVERE, WITH THE POTENTIAL FOR ENTIRE CROPS TO BE DESTROYED.

Downy mildew is an oomycete fungus that can damage vegetable crops very quickly when conditions favour its development. Symptoms of the fungus are yellowish leaf spots on the upper leaf surface which then turn brown. Following initial signs of the fungus, a white growth will appear on the lower leaf surface within 24 to 48 hours.

Growers have been able to successfully prevent and control incursions of Downy mildew through good management practices and the proper application of existing fungicides. However, no new chemicals with new modes of action against Downy mildew have been introduced for an extended period of time. There is evidence of resistance to some commonly used fungicides in some vegetable crops, and existing fungicides may begin to lose efficacy in treating the disease if they are overused.

Alternative solution

DuPont™ Crop Protection is preparing to launch a new Downy mildew fungicide for Australian vegetable growers to combat the fungus. The product, to be called DuPont™ Zorvec® Enicade®, is expected to have regulatory approval in the second half of 2015 and the company has applied for registration in oilseed poppies and a wide variety of bulb, leafy and other vegetables.

A better crop for a better business

Field trials were held across a number of locations in Victoria and Tasmania in October and November 2014, along with presentations and field tours for local growers to see firsthand the success of Zorvec® Enicade®.

Trials have shown that the fungicide protects expanding leaf growth for better crop establishment, protects the underside of leaves, shows effective results with low use rates and has excellent efficacy in the field. Zorvec® Enicade® also has a favourable profile with low oral, neuro and developmental toxicity, and low avian and bee toxicity.

Vegetable growers are highly vigilant with their pest control and disease prevention strategies, and use sophisticated strategies in an effort to grow pest and disease free produce.

These strategies include the use of effective fungicide programs aimed at preventing diseases like Downy mildew. Growers are also concerned that existing chemicals are becoming less effective, and that there have not been many recent new product registrations for Downy mildew disease.

New products with a new mode of action will help keep damaging diseases such as Downy mildew under control. Growers are advised to keep a lookout for Zorvec® Enicade® in the second half of 2015.

For more information please visit www.cropprotection.dupont.com.au.

Creating an energy efficient cool store

R&D
Farm Productivity, Resource Use & Management

VEGETABLE GROWERS SPEND INCREASING AMOUNTS OF MONEY ON ELECTRICITY, AS IT IS THE MAJOR ENERGY SOURCE USED IN VEGETABLE PROCESSING. ENERGY AUDITS CONDUCTED FOR A GROUP OF 20 VEGETABLE GROWERS ACROSS AUSTRALIA SHOWED THAT COOL STORES TAKE UP MUCH OF THE OVERALL SHARE.

In this study, cool stores accounted for 35 per cent of the total electrical energy consumed and around 60 per cent of the electrical energy used in the processing facilities. These figures vary considerably from one grower to another, but very few are unaffected by cool stores and their energy consumption.

It is clear that the refrigeration unit at the back of these stores is humming through the power almost continually to reduce the temperature of the vegetables from the field. This is "sensible heat" taken from the vegetables and, along with a smaller amount for plant respiration, is unavoidable and necessary.

This article will examine cooling demand and how it may be reduced by improving existing cool rooms.

Cool room position

To make best use of the cooling, ensure that the doors open internally so that cool air is not lost from doorways. This also saves the cool store from direct sun and hot air from blowing into the cool room when the doorway is open.

Cooling demand

The example of a typical cool store with dimensions 12m x 13m x 4.5m height on an existing concrete slab in a shed, storing 30 tonnes of vegetables from the field at an ambient temperature of 25°C, can be used to work out the energy demand on the refrigeration system.

Thirty tonnes of product has a demand of 2,622MJ of energy to reduce its temperature from 25°C to 2°C (the sensible heat), plus another 140MJ for respiration over 24 hours in the cool store. Using *Australian Refrigeration and Air Conditioning Volume 2* to calculate the energy demand of the cool room structure, a further 1,950MJ/day is required continuously by the cool store structure and activities assuming an ambient temperature of 25°C.

The results from the study show that the cool room structure itself loses heat through the walls, ceiling and floor. This is compounded by heat producing activities within the cool room and cold air losses when the door is open.

Approximately 42 per cent of the energy consumed in cooling is wasted in this case. Moving products in and out of the store contribute little; cold air losses when the doorway is open contribute more, as does the energy used by lighting and fans. However, most of the losses are through the structure itself.

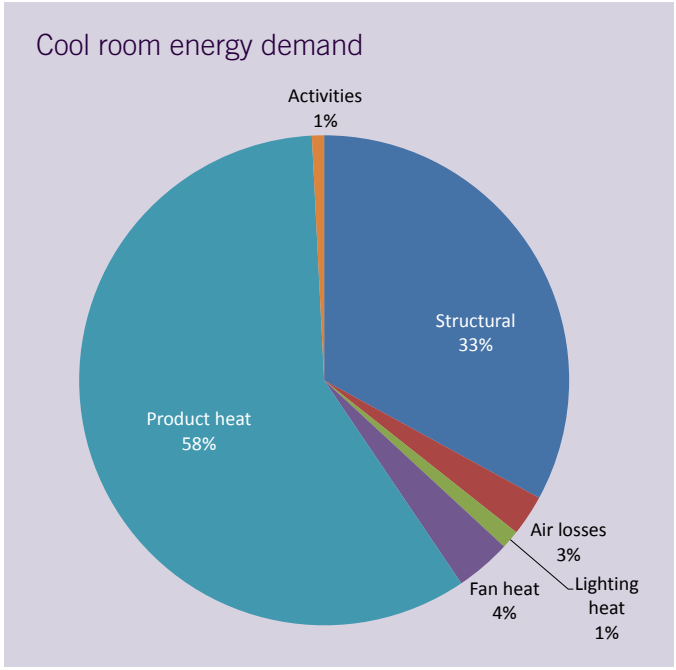
Cool room structure

The structural elements most often used in cool store construction are polyurethane foam sandwich panels for floor and ceiling construction. These insulate well, but the concrete floor may be left untouched so that forklift movements are unimpeded.

If the ground temperature under the slab is set at 12°C, the thermal conductivity of concrete allows large energy losses through it. Wall and ceiling losses are only 20 per cent of the energy loss through the floor.

If the concrete slab is insulated, the floor losses are reduced by over 95 per cent and the other structural elements become relatively important. The practicalities of retrofitting insulation into a concrete slab are significant, so a potential compromise is laying a tough rubber mat onto the cool room floor. It is estimated that a 10mm rubber mat will save 40 per cent of the energy losses through the floor, which relates to an energy cost saving of $17,000 per year for the cool room running all year at 2°C.

There are also good energy savings by attending to wall, ceiling, doorway and other incidental losses associated with cool store operations.



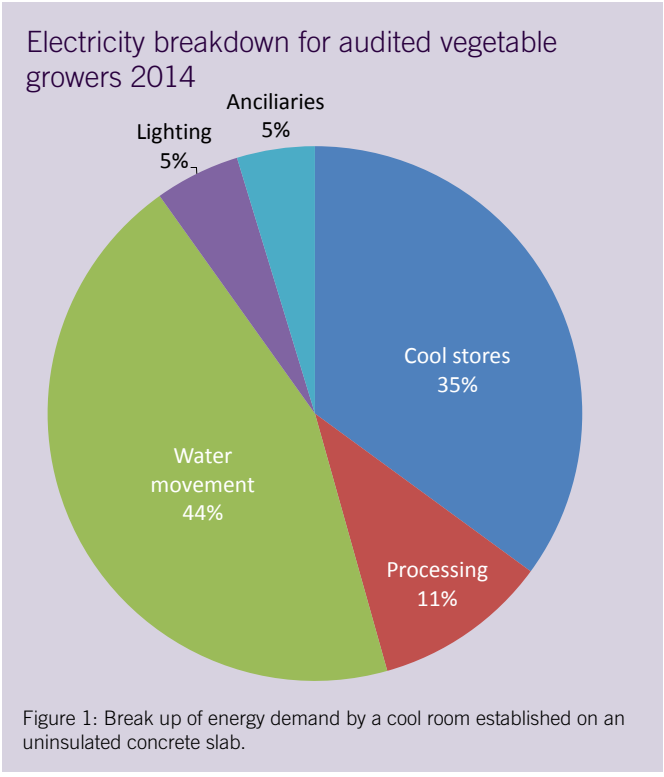


Figure 1: Break up of energy demand by a cool room established on an uninsulated concrete slab.

This project was conducted by InfoTech Research as part of a Horticulture Innovation Australia Limited (HIA) project investigating energy audits for vegetable growers. The project has been funded by HIA using the National Vegetable Levy and funds from the Australian Government.

How fresh is your broccoli on the shelf?

R&D Market & Value Chain Development

R&D Consumer Alignment

WHILE VEGETABLE GROWERS WORK TIRELESSLY TO ENSURE THEIR PRODUCT MEETS THE HIGHEST STANDARDS IN TERMS OF QUALITY AND AESTHETICS, THESE EFFORTS MAY NOT ALWAYS BE APPARENT AT THE POINT OF SALE. NEW RESEARCH FROM APPLIED HORTICULTURAL RESEARCH HAS SET OUT TO DETERMINE WHY THIS MAY BE THE CASE.

If you ask consumers what they think of broccoli, chances are they will say how healthy it is, how nice it looks on the plate and how it can add variety to all sorts of different meals.

But it still begs the question: if it's so great and is clearly packed with inherent health benefits, why don't consumers buy it more often at the point of sale?

Recently, research conducted by Colmar Brunton found that one of the main reasons consumers avoid buying broccoli is that they are unhappy with retail quality. They were often disappointed in freshness, with most purchases failing to last in the fridge at home.

Now, a new study by Applied Horticultural Research has examined whether there is any basis to this perception and why such inconsistency might be occurring.

The study

In this project, retail stores in Sydney, Melbourne, Brisbane and Perth were randomly selected and visited to assess the type of displays and quality of broccoli being sold.

"The range of display quality was huge," said Dr Jenny Ekman, who led the research.

"We saw beautifully arranged, multilayered and hand-misted displays of perfect broccoli. Then at the other end of the scale we saw yellowing, physically damaged or massively large broccoli heads thrown randomly onto a grubby shelf, or left floating in the melt-water in their polystyrene foam box."

Perhaps surprisingly, many of the best displays were not refrigerated. However, they were constructed with evident care for the product.

"We found that broccoli temperatures averaged 10-15°C when displayed in an open environment and around 5°C in a refrigerated unit," Dr Ekman said.

"However, these averages conceal huge variation, ranging from -2°C to nearly 24°C. Moreover, cold temperatures were no guarantee of quality.

"The results suggest that consumers expecting to purchase broccoli that was 'excellent' or at least 'good' quality would be disappointed in quality at least one trip in five."

Samples were purchased from 56 Sydney retailers and stored at 5°C or 22°C to measure storage and shelf life; average life was two days at 22°C and two weeks at 5°C. However, according to Dr Ekman, "this also concealed huge variation. Some samples were pretty much unacceptable at purchase while others lasted four weeks under normal fridge conditions.

"In total, 16 of the 56 samples (28 per cent) would not have met consumer expectations of both good initial quality and at least seven days storage life."

Grower impact

Harvest, packing and transport were also studied to see if these were likely to be the source of variable quality at retail. The results showed that growers are highly conscious of the need to cool broccoli quickly after harvest.

Broccoli is still usually packed in polystyrene foam containers and top-iced. This keeps the product cold even if the cold chain is broken. It does, however, increase energy and transport costs as well as the industry's environmental footprint.

If the ice melts it can also damage the broccoli. Plasticised cardboard cartons designed for top icing offer some improvement, but become difficult to handle if the ice melts.

Broccoli is now supplied to some retailers without ice, packed in lined plastic crates. While many remain reluctant to move to ice-free broccoli, no negative quality effects were seen during this trial.

"In summary, broccoli freshness at retail is highly variable," Dr Ekman said. "Quality does not correlate to display method or price, and storage life cannot be easily predicted from quality at purchase. It is entirely possible that consumers do indeed purchase broccoli less often because of quality issues.

"The next challenge is to find ways to improve retail quality, thereby increasing sales of this nutritious, flexible and – hopefully – profitable vegetable."

For more information contact Dr Jenny Ekman on (02) 8627 1040, 0407 384 285 or jenny.ekman@ahr.com.au.

Conference promising for growers in northern Australia

The 2014 Northern Australia Food Futures Conference, a three-day event held in Darwin in November, marked the first time in 30 years that the region came together to discuss the future of agriculture in the north. The conference has been hailed a success, with many key developments and outcomes already underway.

The idea for the conference was driven by a group of farmers from the Northern Territory Farmers Association and brought together agricultural companies, successful producers, government and research organisations from across northern Australia (including the Northern Territory, Queensland and Western Australia) to discuss opportunities to grow the cropping and horticultural industries.

Over 300 attendees and key industry representatives and producers from across the country attended the conference and listened to a diverse range of speakers, including AUSVEG CEO Richard Mulcahy.

Mr Mulcahy spoke about key issues facing the horticultural sector, including how growers can improve the profitability of their operations, how to encourage young growers to work in horticulture and how Northern Territory growers can work with the Territory and Federal Governments to advance the industry.

The conference also provided a great forum for networking and fostering ongoing collaboration on many levels including government policy, R&D and future opportunities for investment and sustainable growth. In addition to regional road shows and an international forum in Indonesia, plans are also underway for the second conference to be held in late 2015.

AUSVEG congratulates the organisers of the 2014 Northern Australia Food Futures Conference, including the NT Farmers Association, on what was a tremendously successful event.

AUSVEG continues to advocate for the rights of Australian vegetable growers throughout all avenues of the Australian media landscape. AUSVEG has represented the vegetable industry on many issues important to growers, receiving nation-wide media coverage and reaching millions of Australians in recent months.

AUSVEG Assistant Manager - Export Development Claire McClelland (right) appeared on ABC News 24 to discuss the China-Australia Free Trade Agreement.

FTA between China and Australia

Multiple AUSVEG staff appeared nationally on broadcast and in print media discussing the signed China-Australia Free Trade Agreement (ChAFTA) in November 2014.

AUSVEG CEO Richard Mulcahy told national broadcast media outlets that it may take a little time for growers to see the benefits of the ChAFTA, but there could be opportunities for expansion.

AUSVEG Assistant Manager – Export Development Claire McClelland appeared on ABC News 24 and said the vegetable industry is hopeful the free trade agreement will result in a reduction of tariffs of fresh vegetables, allowing for more direct trade into China.

ABARES data on grower debt

AUSVEG Deputy CEO Andrew White appeared on broadcast media discussing the latest data from the Australian Bureau of Agricultural Resource Economics and Sciences (ABARES) on vegetable growers' debt. Mr White said the industry is looking at export markets to relieve some pressure off the domestic market, as rising production costs are hurting growers' bottom lines.

AUSVEG Senior Communications Officer Tamara Ungar also featured on broadcast media, where she said that rising production costs and falling farm gate prices were cancelling out the benefits of high production levels, and that growers are increasingly struggling to maintain profitability in the face of rising input costs.

ACCC decision on Woolworths

AUSVEG Manager – Communications Andrew MacDonald featured on national broadcast media and in print discussing the ACCC's revelation it had failed to find evidence that growers were unfairly pressured into contributing to Woolworths' marketing campaign featuring Jamie Oliver.

Mr MacDonald said AUSVEG maintained growers felt pressured to contribute to the campaign, and that growers were too afraid to come forward and go on the public record against Woolworths for fear of retribution from the retailer in future dealings.

Local procurement policy

Mr White also appeared on broadcast media detailing how unions and producer groups have joined forces to encourage government, particularly during the Victorian State Election in November, to demand that food orders placed by public hospitals and other public institutions are met with locally-sourced produce.

Mr White said the push was about moving local food manufacturers and growers to the front of the line when it came to supplying food in their own country, and that similar policies had been successfully implemented in the UK, among many other countries.

Virus threat

AUSVEG Biosecurity and Special Projects Coordinator Dr Jessica Lye featured on broadcast media discussing support being offered by AUSVEG for growers in the Northern Territory currently being impacted by Cucumber green mottle mosaic virus (CGMMV).

Dr Lye also featured on broadcast media regarding import restrictions on the cucurbit family as a result of CGMMV.

Key topics for November/ December:

- ChAFTA could potentially have wide-reaching benefits for the entire vegetable industry.
- The latest ABARES data shows that rising production costs and debt are hurting vegetable growers.
- AUSVEG expressed a lack of surprise when the ACCC failed to find evidence that growers were unfairly pressured to contribute to a recent Woolworths marketing campaign.
- AUSVEG urged Victorian State Government to use locally-sourced produce for state institutions.
- AUSVEG was a key source of communication for growers and industry during the outbreak of CGMMV in the Northern Territory.

Minor Use Awareness Program: Latest news

GET INVOLVED! A PRIORITISATION STRATEGY FOR MINOR USE REQUESTS HAS BEEN ESTABLISHED, BUT TO PROPERLY REPRESENT THE NEEDS OF GROWERS, COMMUNICATION AND INVOLVEMENT IS KEY.

R&D
Farm Productivity, Resource Use & Management

Minor use plays an integral role in the Australian vegetable industry and has the highest number of requests for a single industry in Australia. On-label options are often limited for many crops, especially in the case of emerging crops grown for niche markets. Therefore, minor use is needed to ensure an effective variation of chemicals is available for pest issues affecting all crop groups.

Prioritisation strategy

AUSVEG Minor Use and Agronomy Coordinator Scott Kwasny has recently designed and implemented a strategy to prioritise requests for minor use needs across the Australian vegetable industry.

When requests are processed as part of the prioritisation strategy, they will be evaluated with data and information gathered from industry stakeholders. Where appropriate, the requests will be combined with other requests of a similar nature to have new permits cover greater areas.

Feedback and information related to requests will be sought from industry stakeholders and growers, which should allow for a better representation in minor use permits for growing regions around Australia.

Several forms have been developed to support the minor use prioritisation strategy:

- Minor use database information form.
- Minor use permit request form.
- Feedback of permit use form.

The database will assist in providing better representation for growers and crop groups for the wider industry along with a channel to identify underlying industry needs. It will also incorporate a feedback mechanism for stakeholders.

Minor use needs

Growers are encouraged to contact Mr Kwasny regarding their minor use needs and pest issues. Communication regarding current pest issues affecting growers is important to understand current minor use requirements.

If there is a pest issue that currently-approved chemistry is not effectively treating, growers are encouraged to communicate this and fill out a minor use permit request form. Incomplete forms should still be submitted as all requests will be included in the annual prioritisation strategy.

The minor use prioritisation strategy needs input and involvement to better represent vegetable growers and industry as a whole. When it comes to minor use in the vegetable industry, communication and involvement is key.

On-label change

The minor use permit PER14582 for use of Vydate L to treat nematodes of sweetpotato in New South Wales and Queensland will be surrendered.

However, there is no cause for alarm as DuPont has extended its label for Vydate L to include sweetpotatoes. This ensures that sweetpotato growers Australia-wide can now use Vydate L nemacide when appropriate as per the spray regime described on label.

To request any of the minor use forms please contact AUSVEG Minor Use and Agronomy Coordinator Scott Kwasny on (03) 9882 0277 or email scott.kwasny@ausveg.com.au.

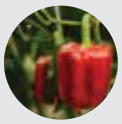
Project Number: VG13096

Minor-use permits

Permit Number	Crop	Pesticide Group	Active	Pest	Date Issued	Expiry Date	States
PER14864	Sweetpotato, Brassica leafy vegetables, Chicory, Radicchio, Rocket	Insecticide	Pirmicarb	Aphids	11-Nov-14	30-Jun-19	All states (excl Vic).
PER11440 Version 3	Peppers (Capsicums, Chillies, Paprika)	Fungicide	Procymidone	Sclerotinia rot	1-Jun-09	31-Jan-20	All states except Vic
PER11564 Version 2	Capsicum	Fungicide	Cyprodinil + fludioxonil	Botrytis and Sclerotinia	28-May-12	30-Nov-14	All states (excl Vic).
PER13031 Version 3	Capsicums and Cucumbers	Insecticide	Maldison	Fruit Fly	6-Oct-11	31-May-17	All states (except Tas & Vic)
PER12567	Carrots, Green Beans, Spinach and Silverbeet	Fungicide	Iprodione	Sclerotinia, Black rot (suppression only) and Grey mould	18-Nov-14	30-Sep-17	All states
PER14890	Shallots, Spring onions	Insecticide	Methomyl	Western flower thrips	25-Nov-14	31-Oct-19	All states (except Vic)
PER14474	Sweet corn	Insecticide	Methoxyfenozide	Lepidopteran pests (caterpillars), *Helicoverpa spp.*	25-Nov-14	30-Jun-17	All states
PER12442 Version 5	Eggplant, Thai eggplant, pepino and Cape gooseberry (field)	Insecticide	Trichlorfon	Queensland fruit fly and Mediterranean fruit fly	10-Aug-11	31-May-17	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: http://www.apvma.gov.au/permits/search.php

CALENDAR



25-27 June 2015

National Convention, Trade Show and Awards for Excellence

Where: Gold Coast, QLD

What: The National Convention is the biggest event in Australian horticulture, providing local and international delegates with an opportunity to forge relationships with members of the industry. In 2015, delegates will travel to Jupiters on the Gold Coast. This is a must-attend event for growers, suppliers, wholesalers, researchers and agribusinesses alike.

Further information: Please contact AUSVEG on (03) 9882 0277, email convention@ausveg.com.au, or visit www.ausveg.com.au/convention

24-28 August 2015

2015 Youth-Ag Summit

Where: Canberra, ACT

What: The 2015 Youth-Ag Summit, which will be hosted by Bayer CropScience and Future Farmers Network Australia, will provide a forum for young agricultural leaders to discuss potential solutions to global issues and act on solutions for sustainable agriculture that will help feed a growing population. Applicants aged 18-25 who are interested in attending the Summit must submit an essay outlining their ideas on the causes, impacts and possible solutions to global food security.

Further information: Please visit www.youthagsummit.com for details on the application process.

Around the states

Queensland

Rural Water Use Efficiency (RWUE) Irrigation Futures is underway in the northern wet tropics.

Growcom is delivering services to horticulture growers in the North Johnstone and Herbert Catchments, with the support of the Queensland Department of Natural Resources and Mines.

The project is focused on assisting Queensland growers to better manage water resources within the new government planning guidelines. Services to growers include irrigation system evaluations, farm water use reports, on-farm technical advice and training in irrigation scheduling and fertigation.

The farm water use report process typically begins with the Farm Management System (FMS) Water Use Efficiency Module, used to evaluate the current practice and identify opportunities for improvement.

Growers have shown particular interest in pump evaluations, where pump performance is calculated at a specific duty and cross referenced with the best efficiency point as specified by the pump manufacturer.

Irrigation system assessments have been used to identify issues with uniformity on several farms. These assessments have also been a valuable tool when calibrating fertigation systems, ensuring minimum injection and flush times have been met.

System evaluations and farm water use reports have been well received in the region where there is a growing interest in fine tuning irrigation scheduling and fertigation systems, maximising pump efficiency and understanding irrigation system capacity.

So far, 16 growers have taken the opportunity to have irrigation system evaluations conducted on farm. The results have been mixed with some systems underperforming while others have been shown to operate close to or above the industry benchmark.

With an improved understanding of system capacity, these growers are able to ensure pump and irrigation systems are correctly matched and operated efficiently to deliver the crop water requirement.

Growers continue to see the value in system assessments with several more booked with us. Work will continue in the region until June this year, with the addition of Mareeba and Dimbulah where work will commence soon.

For further information about how to get involved in the project contact Growcom Land and Water Field Officer, Kathleen Heuvel on (07) 3620 3852, 0427 138 118 or email kheuvel@growcom.com.au.

Alex Livingstone
Growcom
Chief Executive Officer
68 Anderson Street,
Fortitude Valley, QLD 4006
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Western Australia

"The cause of National Trade and all that follows from it ought to arouse our enthusiasm. It is a great constructive aim for statesmanship imperatively demanded in this day of world empires and of vast industrial combinations. Trade is essential to the existence and progress of each nation as a separate organisation, why should it be given freely to those who exclude us from their markets. The home trade is the best trade. It should belong to those whose citizenship, institutions and taxes make it, and keep it. Foreign trade should be subordinated to it from motives of patriotism and prudence."

These are the words of Alfred Deakin, the second Prime Minister of Australia, on 29 October 1903 when campaigning on behalf of his Protectionist Party for the election held a few weeks later. There is much to be said for "National Trade", or what we would refer to today as the domestic market, and it is interesting to see that concern about world empires and vast industrial combinations continues to echo more than 100 years later.

However, much has also changed in the interceding century and vegetable growers are in a position to take advantage of some of the opportunities of foreign trade as our national industry continues to move on from some of the inward-focused attitudes that linger from the days of our second Prime Minister. We are lucky that Western Australia has historically embraced export markets like no other state.

Indeed, Deakin's arguments that sought primacy for the domestic market perhaps now provide good reasons for export market development. World trade has unrecognisably opened up over the last 30 years. The significant Free Trade Agreements that Australia recently completed with China, Japan and South Korea are a further resounding response to historic questioning of freely giving trade to those who exclude us from their markets.

The empires and vast industrial combinations that Deakin points to in foreign markets must surely now also exist nearly as much within the domestic markets through the power of the large retailers. Therefore diversifying into additional overseas markets provides an excellent way for businesses to manage risk.

I have been very pleased with what vegetablesWA has achieved in assisting growers to investigate these markets, including the recent engagement with Singapore. Clearly, exporting cannot be for everyone as growers will require a level of scale and commitment. However, I believe that these markets will provide those growers who are prepared with significant new opportunities to expand their businesses. I encourage growers to contact our office for assistance.

So, our trade should not belong only to those whose Australian citizenship supposedly qualifies it, according to our second Prime Minister, but those consumers who are able to best pay for it, no matter where they may be. This will in turn make our industry stronger and better placed to serve Australian consumers in the long run. Indeed, to paraphrase Alfred Deakin, foreign trade should be embraced from motives of patriotism and prudence. Now there's something that really ought to arouse our enthusiasm.

John Shannon
vegetablesWA
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South Australia

In recent months AUSVEG SA has been fortunate enough to receive significant support from the local industry, as well as companies that have kindly offered to support our organisation. Since its inception, AUSVEG SA has made significant progress in re-establishing meaningful agri-political representation, building a strong and diverse membership across many vegetable and potato growing regions and re-establishing formal representation for South Australian growers with the national industry representative, AUSVEG.

I am grateful for the support of our many foundation members throughout the past few months. I look forward to working with a number of operations over the coming year to ensure industry interests are heard in debates around areas such as biosecurity management and land use planning, while also ensuring that industry is able to remain vigilant against encroaching regulation in a time of lean budgets from the state government.

I am also thankful for the ongoing support of my AUSVEG colleagues nationally and was excited that Adelaide was chosen to host the Malaysia and UAE Export Symposium in late January. This event aims to bring a number of trade and market experts to South Australia, as well as growers throughout the nation, to learn about emerging opportunities in these markets. This is all part of the commitment of AUSVEG at the national level to empower growers to seize opportunities that exist overseas and release pressure on a hypercompetitive domestic market.

While traditional approaches to exporting – using agents and middle men – have proved uneconomic in the past, many growers are finding that the softening Australian dollar has opened up significant opportunities in exports, provided they are willing to take on the traditional functions of agents themselves. Some examples from interstate have involved growers forming cooperatives and putting in the necessary infrastructure for Australian Quarantine and Inspection Service (AQIS) approvals, as well as managing transport themselves to deliver produce directly to retailers overseas.

Given this, the focus of the Symposium is to provide growers with the local knowledge and connections necessary to take charge of the export process in these emerging markets for Australian fresh produce. I am heartened that many South Australian growers have taken the opportunity to attend the Symposium, as a willingness to learn, adapt and develop new markets will be key to ensuring a future for the vegetable and potato industries of our state.

On a final note, AUSVEG SA will hold its inaugural South Australian Vegetable Industry Dinner on 28 January. South Australian growers will be joined by a number of interstate growers and supply chain participants to celebrate our local vegetable industry. I am pleased to see many growers have taken up this fantastic opportunity to catch-up with their counterparts from throughout Australia and simultaneously celebrate our industry. I look forward to seeing you all on the night of the dinner.

Jordan Brooke-Barnett
AUSVEG SA
State Manager
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Adelaide SA 5000
Phone: (08) 8221 5220

Northern Territory

NT Farmers is proud to become a full member of AUSVEG and contribute to "Around the States" for the first time. The vegetable industry in the Darwin region produces significant volumes of Asian melons, okra, snake beans and cucumbers which are sent interstate in the Dry season (May to October) and Asian leafy vegetables, herbs and spices, which are grown year round for the local market. The Katherine region has substantial pumpkin production coupled with large watermelon production also in the Dry season. The onset of the tropical monsoon in January in the Top End marks the traditional end to the vegetable production year and it's a chance for most growers in the north to take a break.

The outbreak of the exotic Cucumber green mottle mosaic virus (CGMMV) in watermelon crops on 10 properties in the Darwin and Katherine regions this season, and subsequently adjacent pumpkin crops on some of those properties, has been met with a rigorous and ongoing response by the NT authorities, in consultation with other relevant industry, federal and state bodies. All vegetable cucurbit growers in the NT have been extensively sampled as this virus can potentially infect Asian melon and cucumber crops as well as melons and pumpkins.

Apart from the original 10 infected properties, all other cucurbit growers were found to be free of the virus and those exporting interstate have been issued with Plant Health Certificates to comply with interstate market access requirements. There will be ongoing sampling and testing this Dry season to ensure the virus is contained and hopefully completely eradicated.

The NT Farmers inaugural 2014 Northern Australia Food Futures Conference, held in Darwin on 3-5 November, was an outstanding success with over 300 attendees, great representation by key northern Australia industry representatives and producers, and a diverse range of inspiring national and international speakers. The event has created a forum to foster ongoing collaboration on many levels including government policy, R&D and future opportunities for investment and sustainable growth.

The conference provided great networking opportunities where policy, development, research and advisory experts could freely discuss realistic and aspirational future options and directions for Northern Australian Food Production. A conference summary is available at http://foodfutures.ntfarmers.org.au/.

Greg Owens
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New South Wales

NSW Farmers has called for competition policy to be reformed to ensure that the markets for our farm produce and the inputs we buy operate competitively. At the same time, it is essential that farmers receive a fair market value and the benefits of competition keeps a downward pressure on farm costs.

We are pleased that the government has recognised this need through the current review of competition policy. In a submission from the National Farmers' Federation, the focal points were around the need for competition policy to prevent companies obtaining market power that will see competition for farmers' produce suffer, and to limit firms misusing their market power. NSW Farmers expects that achieving change in these areas will have to be hard fought for and welcomes such a challenge.

NSW Farmers would also like to welcome and support the finalisation of Horticulture Innovation Australia Limited (HIA). We are keen to see the establishment of a robust membership base that is representative of all horticulture industries and a strong strategic plan that includes consultation with many industry bodies. We see communication with levy payers and members as key to the success of the strategic direction, research, development and marketing priorities, and ensuring duplication is minimised between other bodies.

In other industry news, NSW Farmers has been a key stakeholder in the development of the National Fruit Fly Research and Development Plan (NFFP). The consultation draft was recently released for review, with an endorsement draft due to be sent for approval by the end of November 2014. The consultation draft lists 11 key recommendations for the direction of research and development to control and eradicate fruit fly.

NSW Farmers has supported the key recommendations and emphasised the need for coordination between states and industry bodies. We believe that the NFFP has the potential to be a valuable tool in the management of fruit fly.

Peter Darley
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Horticulture Committee Chairman
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Tasmania

A couple of months have now passed since the adrenalin rush of Chinese President Xi Jinping's visit to Tasmania and the agreement to sign a Chinese Australia Free Trade Agreement (ChAFTA).

For Australian agriculture, both ChAFTA and the President's visit sought to highlight the prospects of a much closer working and trading relationship with the Chinese – although it is not exactly a "free trade" in terms of one level playing field.

When Australian farmers need a sober, balanced, independent appraisal of how they are going, they turn to the Australian Farm Institute (AFI). The AFI is a truly independent research body that analyses policy and data about our industry and the global industry. It then gives regular reports, in which it pulls no punches.

Recently, the AFI reported its latest assessment of Australia's performance on world markets. It makes for sobering reading, particularly when you consider the relative lack of government subsidies that Australian farmers get compared to their main competitors.

What the AFI found was this: global agricultural trade has been increasing at an average compound annual growth rate of approximately eight per cent over the last 15 years. In some regions – central and south Asia, ASEAN, Africa and the Middle East – the growth rate has been more than 12 per cent a year.

But over that same 15-year period, the gross value of Australia's agricultural exports has been increasing at a much slower rate, between five and six per cent a year. This means that, in global agricultural trade terms, Australian agriculture is losing market share.

And Australia is losing market share in the same regions where the value of agricultural trade is growing most rapidly. To cut to the chase, it means that although our trade to these places is growing, other agricultural exporting countries are doing better than us. This includes Brazil, other Latin American nations, the US, China and Indonesia. Oh yes, and New Zealand.

The AFI says one of the reasons for Australia's relatively poor performance is that we specialise too much.

"… much of the growth in agricultural trade in Asian regions involves feed grains and oilseeds, both of which are used as feed for the intensive livestock (pork and poultry) and aquaculture sectors that are growing rapidly in this region in response to growing demand for protein in diets."

AFI says the overall message is that we are losing ground.

"… there is no room for complacency in relation to Australia's agricultural competitiveness, and certainly no reason to assume that Australia's proximity to rapidly growing markets provides some advantage over other national agricultural exporters.

"The results also highlight that Australian agriculture needs to do more in order to shift up the value chain, so as to increase the unit value of agricultural exports and in that way compensate somewhat for the lack of potential to increase the volume of agricultural production available for export."

So, as farmers, we still have a job ahead of us in terms of our global competitiveness in the markets that are growing fast but our competitors are servicing more cost-effectively.

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Victoria

It is interesting to listen to the many operational complaints levelled at growers from residential dwellers as suburban housing developments and increased populations move into new areas at a steady rate.

When is the vegetable grower provided with the opportunity to move to new land away from sprawling suburbs that has the provision of good soil and water in order to successfully grow fresh vegetables? One prime example is a Victorian Eastern project that has all the qualities of a sound development for growers to obtain land acreage in the area, but the provision of water appears to be a grower's responsibility to provide funding for the project and not local council or state government. Common sense appears to be overruled by politics irrespective of which government holds the seat of power.

It is also disappointing to see so few of our younger growers taking up the opportunity of programs such as Growing Leaders – a program that helps participants gain confidence in their dealings with others, especially those that they view as their superiors. It helps in developing supportive networks and relationships with other like-minded people in the industry.

Speaking with the Victorian participants from a previous Growing Leaders course, they all agree that the experience was invaluable and not just about working on committees and becoming president. Most of our young growers are so involved in setting themselves up on their own or their parents' farms and learning about the business of growing that they miss these valuable opportunities to expand their knowledge, keeping abreast with fast-moving technology and building links with others in the industry.

As many of you know, VGA Vic has held a long and proud alliance with Wesfarmers Insurance (WFI) and has been working together to serve the Victorian vegetable industry. It is through this relationship that WFI offers VGA Vic members competitive and flexible quotes on their insurance. In return VGA Vic receives a commission through client referrals which benefits the organisation without impacting on a member's premium. When discussing insurance requirements with your WFI representative please mention that you support VGA Vic.

In other developments, an interesting and informative way of communication would be to hold three informal forum meetings around Australia providing a wide range of topics and vegetable produce knowledge. This would provide an ideal lead-up to the 2015 National Convention, Trade Show and Awards for Excellence and give state member organisations the opportunity to share vegetable industry knowledge. It would also allow AUSVEG to provide national recommendations for all state member organisations to direct their vegetable grower membership.

Looking closer to the farm, the forklift is one of the essential machinery units in line with tractors, planting and harvesting equipment utilised within the vegetable industry. Forklift safety handling has become a feature of Victorian Worksafe Organisation. Wearing seat belts, reversing lights, speed when travelling and the driver holding the correct licence are some of the issues being regularly checked throughout Victoria. So please be aware of the possibility of compliance visits to your property, packing shed or trading stand at a central market.

Also all growers need to be aware of the surveys being carried out by Fair Work Australia and note that on-farm visits are occurring to ensure that employees and contractors are receiving the scheduled award remuneration and conditions for work carried out on the property.

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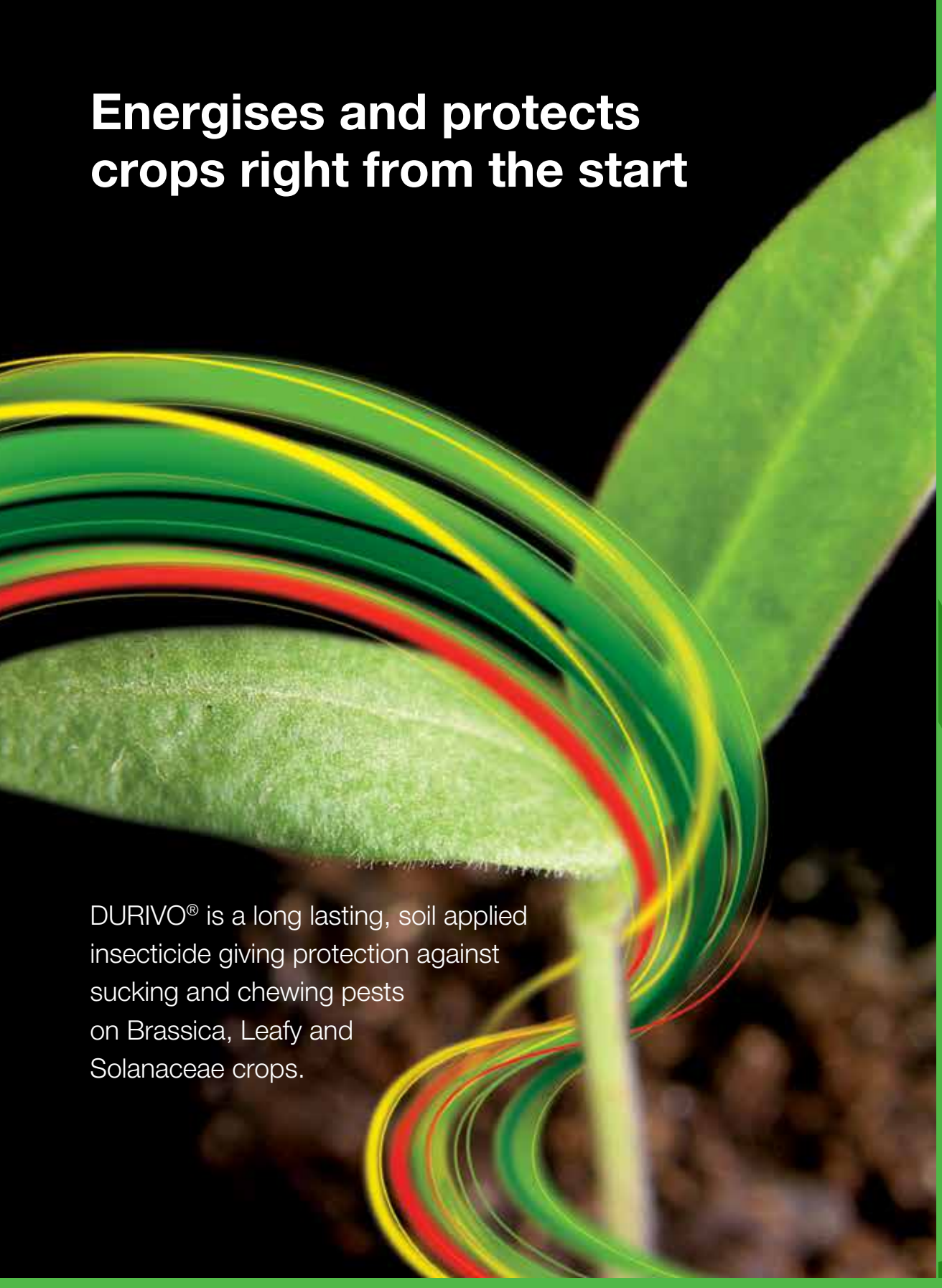

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