

vegetables

australia

May/June 2012

Dean Phillips

Fighting for a
Phytophthora-free
future

Chef Peter Gilmore

Quay connection

Belinda Adams

Adapting for future
challenges

Anthony Pratt

Paper, packaging
and recycling:
VISY's evolution

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vegetables australia

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Anthony Pratt

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All you need to grow

John Brent AUSVEG Chairman

2012 continues to unfold with a healthy share of opportunities and challenges and suddenly, we find ourselves rapidly approaching the half way point of the year.

The widespread concerns that are shared throughout the horticulture sector regarding the soon to be implemented carbon tax will not, however, diminish with time. Of particular concern is the impact the tax will have on cooling and general energy costs for those within the industry. The spike in costs will drastically effect the bottom line of our nation's growers, threatening their financial stability and our nation's long-term food security.

Contrary to opinions expressed in some parts of

the community, this is not a question of growers modernising or adapting to change; they already do that on a day-to-day basis. You would be hard-pressed to find a nation of growers more willing to actively improve their own practices. Instead, it is about our state and federal governments adequately supporting our industry so that it has a level platform from which to remain internationally competitive.

In contrast to those concerns, it is heartening to see the work of Dean Phillips, who is featured in this edition of *Vegetables Australia*, recognised and supported by the federal Government and Horticulture Australia Limited. For such a young man, Mr Phillips is

making great strides in the fight against one of the industry's most pervasive and destructive diseases, *Phytophthora*.

The Minister for Agriculture, Fisheries and Forestry, Senator The Hon Joe Ludwig, presented a \$22,000 grant to Mr Phillips at a recent dinner in Canberra. The grant is designed to aid and further his work, and is emblematic of the type of investment we as an industry need to continue to make in Research and Development. Young researchers such as Mr Phillips hold the key to fighting future threats to our industry, so it is vital that he and others have the ability to undertake research within Australia in order to provide solutions specific to the needs of our local marketplace.




John Brent
Chairman
AUSVEG

Richard Mulcahy AUSVEG Chief Executive Officer

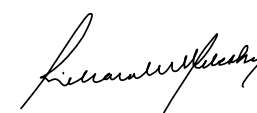
The broader public was subject to much rhetoric from the major supermarkets following the drastic retail vegetable price cuts during the start of this year. Much of it sought to assuage concern as to how the retail price cuts, boasted to be as high as 50 per cent, were achieved. Data over the last 12 months shows that the wholesale vegetable market has softened substantially. Compared to March 2011, there has been an 11 per cent drop in the wholesale prices for all vegetable categories, according to data supplied through a levy funded program that considers market trends. That is a significant reduction for an industry facing ever-increasing costs and a rise in imports, all upon the unstable terrain of the present local marketplace. While these lower prices may have translated into greater

sales volumes in the short-term in some cases, in the long-term lower wholesale prices are contributing to a softness in the market, squeezing margins for growers that are struggling to remain competitive, and contributing to long-term viability concerns within the industry.

It is sadly with no surprise then that we saw Bundaberg-based Basacar Produce, one of the largest suppliers of cherry tomatoes to Coles supermarkets, recently fall into administration. Their collapse follows that of SP Exports, after both reached levels of insurmountable debt. It is of extreme concern that such significant operators, who hold a key place within our industry, are being forced out due to increasing costs of production and the slim margins that come as a result of supermarket

pricing tactics.

Elsewhere, I am pleased to see a leader in industry, Anthony Pratt, on the cover of this issue of *Vegetables Australia*. With Mr Pratt at the helm, VISY continues to move forward as one of the most innovative and exciting companies in Australia and indeed, the world. His presence at a recent AUSVEG Board meeting underscores VISY's commitment to the industry. Growers should be heartened to know that one of the most high profile figures on the Australian business landscape holds such an active interest in their concerns and future security. It was refreshing to hear the steadfast determination of VISY and Mr Pratt to continue working with our industry and service the packaging needs of Australian growers for many years to come.

Richard J Mulcahy
Chief Executive Officer
AUSVEG

Editorial

This edition sees *Vegetables Australia* travel to the USA, Germany and the Netherlands, a greenhouse in South Australia, an inner-city restaurant in Sydney and a research laboratory in suburban Melbourne.

In one of the most high profile features to grace the cover of *Vegetables Australia*, Anthony Pratt speaks about packaging giant VISY and its future in the horticulture sector (page 11). Mr Pratt is one of the country's leading businessmen and his insights are of great relevance to growers and members of our industry.

In 'Super Hieu Minh's hydroponics' (page 27), *Vegetables Australia* talks to an ambitious young South Australia grower at the forefront of hydroponics in this country. Hieu's desire to continually

advance and improve his family's operations in the face of challenging circumstances positions him as one of the leaders of what is a burgeoning sector.

Elsewhere, the work of Dean Phillips in 'Fighting for a *Phytophthora*-free future' (page 34) will be of interest to many in the industry. *Phytophthora*

holds a ubiquitous and devastating presence in horticulture, so Dean's significant progress towards fighting the disease should stir some hope in growers.

This issue also sees reports from grower tours to the USA (page 40) and Germany and the Netherlands (page 46). The European tour took in

the enormous Fruit Logistica 2012 in Berlin, as well as various growing operations, while the USA Grower Tour saw participants visit "the granddaddy of farm shows" in Colusa and John Deere's mammoth headquarters in Illinois.

In the second article of the series, *Vegetables Australia* looks at the connection between Quay restaurant and one of its chief vegetable suppliers, Richard Kalina (page 22). Both he and the restaurant's head chef Peter Gilmore, reveal how their relationship was forged and the benefits it brings to both parties.

AUSVEG biosecurity advisor, Dr Kevin Clayton-Greene, also returns to offer a further insight into some of the biosecurity threats facing the industry and the measures that are in place to deal with any outbreaks (page 17).

In-depth R&D coverage comes in the way of a story on controlling anthracnose in lettuce (page 24) and a new report that examines methods to counter broadleaf weeds in cucurbit crops (page 20).

Industry economist Ian James dissects new data that underscores the impact of imported produce on the local market (page 44), while Michael Vorrasi is profiled in this edition's Young grower feature (page 18).



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Michael Vorrasi



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Peter Gilmore



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Dean Phillips

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Anthony Pratt

Paper, packaging and recycling: VISY's evolution - pg 11

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Veggie bites

Facts & figures...

\$6.1 billion

Coles' third-quarter sales figures totalled \$6.1 billion, reports ABC News.



1,463,700

The Scoville scale (SHU) rating of a chilli grown in NSW, making it the hottest in Australia. It is 200 times hotter than a jalapeño chilli, reports Veginsights.

4.2%

Prices of fruit and vegetables in New Zealand fell 4.2% in March, reports the New Zealand Herald.

£3 million

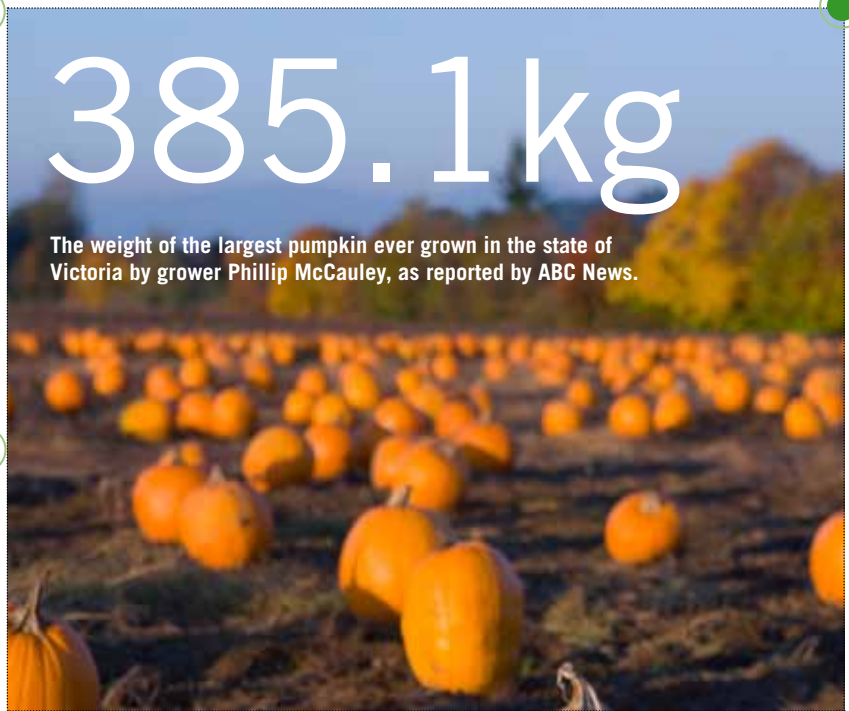
The cost of a television ad campaign launched by bagged-salad company Florette in the UK, as recorded in Veginsights.

30%

India has experienced a 30% rise in the price of vegetables this season, reports the Times of India.

385.1kg

The weight of the largest pumpkin ever grown in the state of Victoria by grower Phillip McCauley, as reported by ABC News.



\$4.09

The average retail price per kilogram of sweet potato in 2011, in comparison to \$2.40 per kilogram for the standard potato, as documented in data funded by HAL.



178%

The vegetable-based promotional activity of Woolworths increased 178% in March 2012, as compared to March 2011. Coles (56%) and Supa IGA (54%) recorded similar increases in their promotional activity, as reported in Veginsights.

VGA Vic appoints new Executive Manager

The Vegetable Growers' Association of Victoria has announced a new Executive Manager.



Helena Whitman has been appointed to the position of Executive Manager of the Vegetable Growers' Association of Victoria.

Ms Whitman assumes the role from Tony Imeson, who will remain at VGA Vic as Company Secretary and Public Officer.

Speaking to *Vegetables Australia*, Ms Whitman said her experience dealing with similar issues, gained during her time as an IDO and previous role as EnviroVeg Manager, positioned her well for the role.

"Some of the issues facing the Victorian vegetable industry are quite significant and having

addressed similar matters in previous roles, I felt that I had the experience to assist the industry in dealing with them," said Ms Whitman.

"I was also encouraged by members of the Executive to consider the position."

Ms Whitman will manage the Association's field staff, in addition to representing VGA Vic at a broader industry level. She said that in 2012, the VGA held an important role for Victorian growers.

Among its duties, Ms Whitman says that VGA Vic provides: "representation and participation on committees,

VFF Policy Council, Market Relocation Committee, [response] to Government reviews, publications, the VGA website and the VGA newsletter, as well as attending promotions and other functions raising the profile of the industry."

"With a part-time Secretariat and now (part-time) Executive Manager, the VGA manages to do a lot for the Victorian vegetable industry that goes unnoticed by growers," said Ms Whitman.

In light of a turbulent start to the year for growers, Ms Whitman outlined several key areas in need of immediate

industry attention.

"[The] main issues facing the industry currently that need to be addressed are the Food Safety Review, chemical harmonisation, worker safety, urban encroachment and loss of arable land. The market relocation is also a major issue," said Ms Whitman.

"Future funding of the IDO program and the Association are also high priorities. Also, like most other organisations, getting younger growers involved in industry leadership roles and membership of the organisation."

NOTICE OF VEGETABLE LEVY PAYERS MEETING

This is an official notice to all levy paying vegetable growers that the 2012 Annual Levy Payers meeting will be taking place at the AUSVEG National Convention, Trade Show and Awards for Excellence.

Details of the meeting are as follows:

Where: Speakers Auditorium, Wrest Point Hotel Casino, Hobart (TAS)

When: Saturday, 12 May from 2.30pm - 3.15pm

Presentations will be given by HAL on the Vegetable Levy income and a representative from the Levies Revenue Service (LRS) will also be attending to present on Levy Collection Costs to Vegetable Levy Payers.

NOTICE OF POTATO LEVY PAYERS MEETING

This is an official notice to all levy paying vegetable growers that the 2012 Annual Levy Payers meeting will be taking place at the AUSVEG National Convention, Trade Show and Awards for Excellence.

Details of the meeting are as follows:

Where: Speakers Auditorium, Wrest Point Hotel Casino, Hobart (TAS)

When: Saturday, 12 May from 2.00pm - 2.30pm

Presentations will be given by HAL on the incomes of the Fresh and Processed Potato Levies and a representative from the Levies Revenue Service (LRS) will also be attending to present on Levy Collection Costs to Potato Levy Payers.



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Paper, packaging and recycling: VISY's evolution

A well-established family-run enterprise, VISY is undoubtedly one of the most recognisable packing and recycling brands in the world. With several new innovative developments on the horizon, including a waste to energy venture, VISY stands as a key figure in the future of the horticulture industry. Executive Chairman Anthony Pratt was a guest at the AUSVEG Board meeting in February, where he spoke with Caitlin Rodé.

Having begun in Melbourne as a corrugated cardboard box manufacturer, the modest VISY business was founded by the Pratt family and their original partners in 1948. With the appointment of Richard Pratt as Chairman in 1969, the organisation expanded its enterprise into paper recycling mills, developed new plants across regional communities in Australia, and was bolstered by the establishment of the Pratt Foundation.

With Anthony Pratt succeeding his late father as Executive Chairman in 2009, VISY has continued to expand, with group sales for the brand now in excess of \$3 billion. Establishing itself as the world's largest privately-owned packaging, paper and recycling company, VISY now employs over 5,500 staff and operates in over 120 sites in Australia, New Zealand, Thailand, Vietnam and Malaysia. VISY also has trading offices located in Singapore and China, with a further 3,500 staff in the USA working under the Pratt Industries USA brand.

Production

Over the past two years, VISY has produced more than 680,000 tonnes of fibre

packaging, 623 million steel food cans, 1.4 billion beverage cans, 836 million beverage cartons, 2 billion PET containers and 646 million units of food plastics. The principle recycling mantra - "paper becomes packaging, plastic becomes bottles, waste becomes energy" - is integrated within the core values of production at the packaging giant.

“The big issues facing AUSVEG and its members today are also of great concern for VISY.”

In the same period, VISY recovered 1.4 million tonnes of paper and cardboard, 489 thousand tonnes of glass, 67 thousand tonnes of plastic and 30 thousand tonnes of metal. With a 30 per cent increase in paper since 2009, and an 8 per cent decrease in water use (per tonne of paper), VISY managed to produce 1.3 million tonnes of paper across 2010-11. In an effort to minimise its environmental impact, raw materials were innovatively used

to advance the progression of the organisation as a provider of sustainable product.

As a major supplier of packaging and transport for the Australian horticulture industry, VISY has forged strong ties with members of the supply chain and key members of the sector during the past 60 years of production.

Industry focus

Speaking at a recent AUSVEG Board meeting in Melbourne, Anthony Pratt stressed that the horticulture sector needs continued support from other industries to ensure its long-term survival.

"The big issues facing AUSVEG and its members today are also of great concern for VISY," said Mr Pratt.

"Food imports, country of origin labelling, the decline of

our food processing industry, the concentrated pricing power of the supermarket sector, soil degradation and access to water are all threatening the future viability of our food industry from paddock to plate."

Mr Pratt also stressed the significance of the food industry with respect to other high profile equivalents.

"Some industries, like car manufacturing, are getting big handouts," said Mr Pratt.

"I'm not going to get into the pros and cons of whether Australia needs a viable car industry, but I have no doubt at all that we need a viable food industry."

Discussing future innovations for packaging, and more specifically those for the horticulture sector, Mr Pratt detailed several developments that are of focus to the organisation and the industry.

"We will be broadening our services, such as a packaging supermarket concept in stores. In other words, instead of just offering boxes, we will also offer lots of other things that farmers use. I also think that there's going to continue to be lighter base weights of packaging, and that will save costs for farmers."

"I think if the dollar stays high, there will be a lot more imported product. If the dollar goes low again then Australia could benefit as an exporter of food; then we could be the clean food bowl of Asia. It is about how much food is here now, that should be the focus. Hopefully we can feed 200 million people and become a major exporter to Asia of clean food," said Mr Pratt.

"It is said that the Australian farm sector supports some 320,000 direct jobs, with a flow-through of about 1.6 million jobs across the nation. VISY's past, present and future is bonded to the future of the Australian vegetable industry, with some 70 per cent of our customers operating in the food sector," he said.

Food security

In a recent keynote address at the Global Foundation's National Conference, Mr Pratt detailed the importance of sustainable production at a farm level.

"Australia needs to embark on a wave of farming innovation, like boosting soil carbon levels which increases the nutrient supply to plants, better water use efficiency, new crop



genetics, promotion of best farming practice, and a serious increase in R&D investment.”

“Now is not the time for governments to be cutting their budgets for innovation support for the farm and food production sector. They need to continue to support the many leading Australian farmers who are ahead of the curve in modern sustainability practices,” said Mr Pratt.

“The loss of much of our food manufacturing capacity has gone largely unnoticed because it happens in small increments, yet we have a competitive advantage because of the quality of our food.”

Clean energy generation

Using recycled resources and converting them into electricity - the waste to energy or ‘clean energy’ evolution - is a venture that has seen millions of dollars in local and international investment in the past decade. In light of an increasingly environmentally-



[L to R] - Luis Gazzola, Anthony Pratt and Richard Mulcahy.

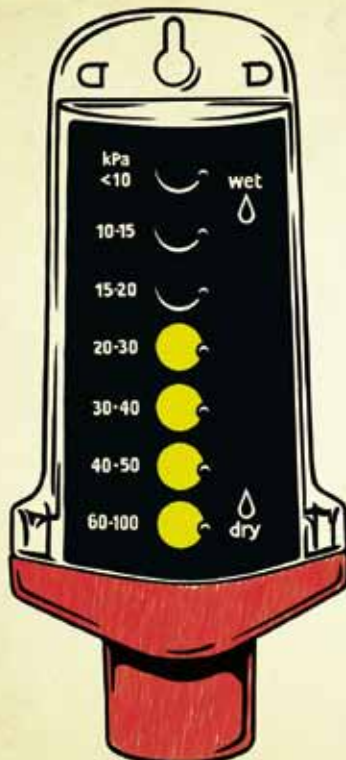


conscious community, the prospect of ‘clean energy’ reducing emissions, energy consumption and landfill is a vision that could win favour with discerning consumers. In recent years, Pratt Industries, VISY’s US brand, commissioned a \$60 million energy plant in Georgia that transfers waste from manufacturing into gas. The first standalone waste to energy plant in Australia, located in Coolaroo, Victoria, is a \$50 million investment in

clean energy technology that takes waste from recycling and recycled paper mill operations and transfers it to electricity and thermal energy. Stressing a commitment to environmental causes and sustainable practices, Mr Pratt cites clean energy as one of the innovative developments that will progress new divisions for the multi-billion dollar organisation. The establishment of waste to energy plants signifies the implementation of Mr Pratt’s

commitment to invest \$1 billion in paper recycling and waste-to-energy infrastructure made at the Clinton Global Initiative meeting in New York in 2007.

In spite of growing internal and external market pressures, and the shifting of many aspects of the Australian industry offshore, VISY seems certain to remain a key and green part of the country’s paper, packaging and recycling future.



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Assessing alternatives to D&F

A national information road show has helped educate growers on alternatives to dimethoate and fenthion.

AUSVEG has conducted a successful national road show addressing alternatives to dimethoate and fenthion (D&F); the two most common treatments to combating fruit fly.

The cost of fruit fly to Australian growers exceeds \$100 million each year and affects approximately 250 fruits and vegetables.

D&F have traditionally been used to fight the pest, however the Agricultural Pesticides and Veterinary Medicines Authority (AVPMA) began restricting certain post-harvest usages of dimethoate in October 2011. Fenthion is also currently under review, and it is likely that the use of both will be subject to significant restrictions in the future.

The road show, which took place across key regional locations, presented a range of alternative methods of treating fruit fly for growers to consider in their own operations.

AUSVEG Communications Officer Hugh Gurney said the attendance at the road show highlighted the level of industry concern and reflected an informed growing community.

“Fruit fly is one of the most destructive and disruptive pests our industry faces, so it was pleasing to meet with growers across the country who were considering how best to fight it in the future,” said Mr Gurney.

“The response to the road show served to underline how actively engaged local growers are with the issues that

surround and affect them.”

Speakers from varying scientific backgrounds presented throughout the road show on a range of alternative treatments, including fumigation, irradiation, cold disinfestation, and a systems approach.

During the sessions, the outcomes of an extensive market research program were also presented. The program unearthed valuable information relating to consumer attitudes about dimethoate, fenthion and broader pesticide use.

“With these market research results, coupled with the knowledge of alternatives to D&F, growers are well-positioned to make decisions as to how they can safely and successfully

treat fruit fly.”

The road show was the subject of recurring media attention in regional centres, with AUSVEG’s first visit to Mildura receiving significant public interest.

For growers who were unable to attend, the entire Townsville leg of the road show was recorded, and will shortly be made available through the AUSVEG website.

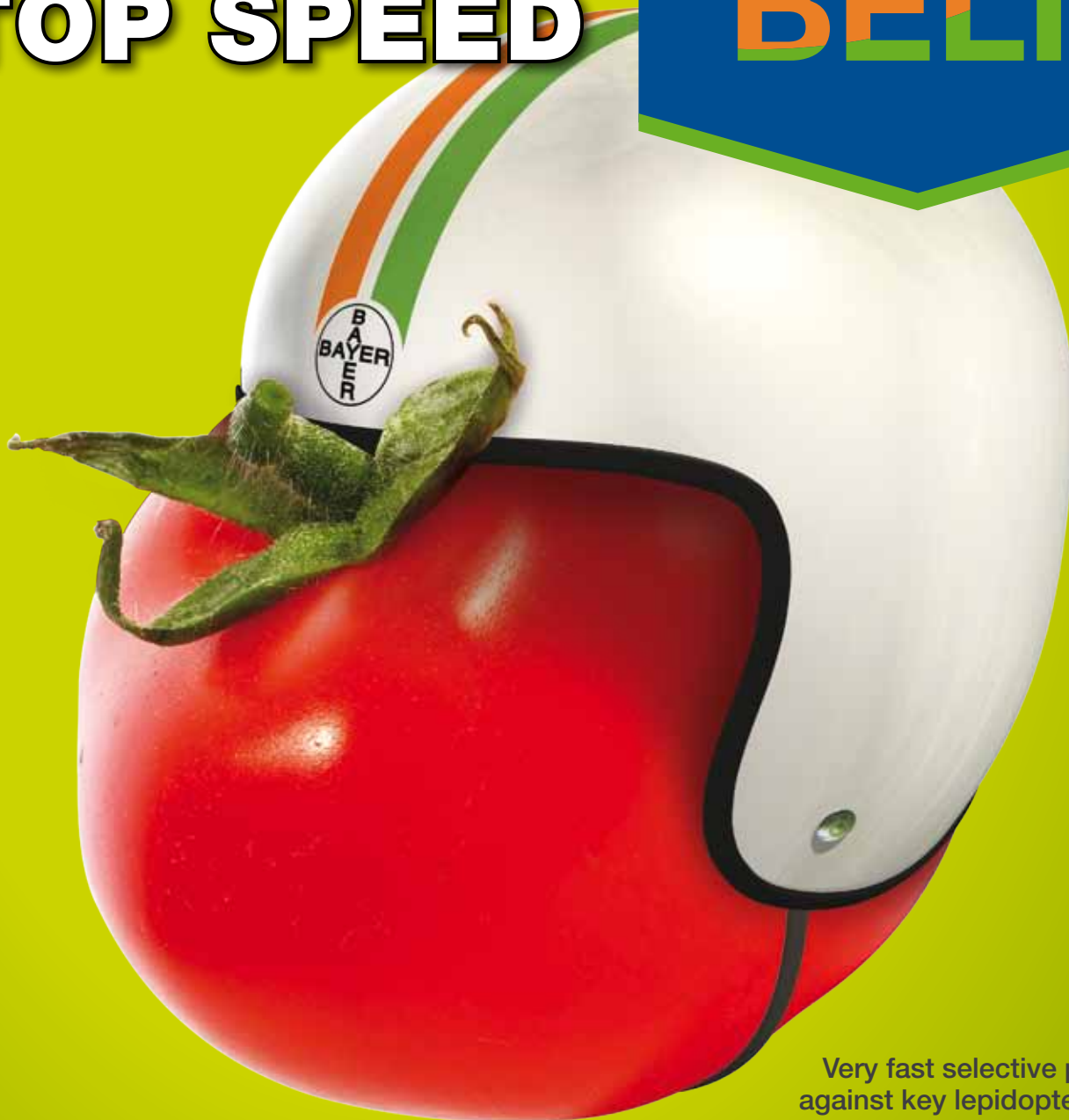
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Biosecurity brief

Dr Kevin Clayton-Greene

In the second of *Vegetables Australia's* recurring series on biosecurity, AUSVEG biosecurity advisor, Dr Kevin Clayton-Greene, discusses some of the threats to Australia's biosecurity and the responses in place to deal with them.



If there was a biosecurity outbreak tomorrow, what would be the response?

If a new pest is discovered, a notification goes to the Chief Plant Protection Officer in Canberra, whose responsibility is to call an industry teleconference, with all affected parties and industry bodies likely to be affected by the pest. At those teleconferences, the extent of the incursion would be discussed; what we know about it, what should be done in the meantime, what sort of information needs to be gathered and what sort of notifications need to be made public. Also, what needs to be done in the future to make further decisions about it. The recommendations of those teleconferences go to the National Management Committee, which is composed of federal and state representatives, and they then decide on the appropriate course of action.

Do you think that process is sufficient? Is it too arduous/too brief?

I would say that up until recently, the industry has not had a very strong profile, and has tended to be in the backseat, sometimes even in the trailer, when it comes to

decision-making about these things. If we don't act ourselves, then decisions will be made for us, over which we will have no control. So my argument is that there are an awful lot of things that need to be done and tied up to ensure that industry sits at the table and gets things that reflect what it needs and wants, and also reflects the realities of the overall environment in which we operate. For too long, the importance of industry has been diminished.

Are there ways in which growers can inadvertently affect biosecurity through practices that they're not necessarily aware of?

Absolutely. Biosecurity begins with every single one of us. The analogy I use is - if you've got a mysterious lump, it's probably cancerous. You can pretend it's not there, but ultimately at some point in time, it's probably going to kill you. Biosecurity is a bit the same. A lot of people feel that it's not their problem, or if it is their problem, they don't want to tell anyone about it because it's only going to cost them a lot of money. It might, but it will cost you a hell of a lot more if you don't do something about it.

Experience tells us that when we have a pest or a disease, we've got a very small window to eradicate it. If we don't do that,

then it becomes a matter of control. Controls are a lot more expensive than eradication, and they don't have an end. I'm absolutely unaware of any disease or pest in the world that's eradicated itself. So therefore, the argument I would make is if you see something suspicious and don't like the look of it, you really should do something about it, because if it doesn't look very good, then it probably isn't, and it isn't going to get rid of itself.

It's in the individual's hands, whether they do something about it or not. But I think it's incumbent upon us, if we believe in our industry and have a responsible attitude towards it and biosecurity, that we are aware of these issues.

It's not only about exotics that might come in. It's also about things that might be in the country. It's also about spreading diseases and pests between farms, and there's lots of considerations about farm-hygiene. Whether it be if you wash your machinery properly, right up to where you get your products from that come on to the farm. Do you know where the bins have been?

For argument's sake, if you are buying seed - do you know what its contamination levels are? Do you check? When you get potatoes, do you know where they're coming from? Are they likely to be carrying disease? These are the sort of

issues that are really important. By doing these little things, they sometimes solve the bigger things.

What are some of the broader public practices that can have a direct affect on biosecurity?

The sorts of things that I get really concerned about are people that bring stuff into the country in their pockets, in suitcases and so forth. Because the potential for those sort of things to cause damage is enormous. Viruses can be carried on the inside of seed. Obviously they can be carried on the outside too, as can fungi, and the same with insects and pests. So there is no way, if you bring something into this country that hasn't been through a proper certified process, that you can guarantee that it's clean. If you're doing that, you're really placing not only yourself, but the whole industry at risk.

I would argue that there are a number of diseases that have occurred in this country - I'm not going to point fingers, but one doesn't have to think too hard - that are a direct result of people bringing stuff into the country illegally.



For more information:
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Project Number: VG11013

Name: Michael Vorrasi
Age: 28
Location: Direk, South Australia
Works: DSA Fresh
Grows: Gourmet lettuce, Asian vegetables



Q&A

Young grower feature

With a father for inspiration and a thirst for business innovation, Michael Vorrasi is determined to make his mark in the vegetable industry.



Direk, South Australia



and Development Advisory Group, I hope as a group we can look at ways to maintain and encourage new people into the industry. For the Australian vegetable industry to be successful and competitive, I believe we need to focus on encouraging younger growers into the industry.

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

To draw young people into the industry, young people have to see the industry as something viable and interesting. From my experience at a school level, there is little to no discussion as to future employment in vegetable industry. As an industry, we need to invest in training and development of people and awareness of the industry as a career option.

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

This is a hard question to answer. I love what I do and I can't really imagine doing anything else.

Where do you see yourself in 10 years?

I believe that even though our core business will be the same, the way we do business will be vastly different. With customer needs and business practices changing rapidly, we need to adapt to changing market conditions. As a business, we will be more efficient and hopefully I would have grown a lot as an individual. Personally, I would like to be involved in the vegetable industry in a greater capacity in the years to come.

How did you first get involved in the vegetable industry?

I was fortunate enough to grow up in the industry. My father, Mario, has been growing for over 30 years. Growing up on the farm, I always enjoyed it but never saw a future in the industry until I went to uni and completed my Marketing Business degree at the age of 20. I began to see the opportunities within the industry. From there, I began working full-time and have enjoyed it ever since.

What is your role on the farm?

Along with my father, Mario, and brother, David, I look after the running of the business. Personally, I oversee the operations and marketing of the business. This consists of production, worker and team management, orders, future planning, stock management, quality control and sales, as well as the general operations that happen day-to-day running a business.

Describe your average day on the farm.

Each day will vary greatly depending on workloads. A usual day will consist of receiving orders, talking with

customers and organising workers, management of operations and general duties. Each day is typically different, never boring with something always to do.

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

I believe there is a great sense of pride working in the vegetable industry. Being able to produce high quality produce that is healthy and beneficial gives me a great deal of satisfaction.

What are the biggest challenges you face as a grower?

Increased cost of production and the same or lower returns for our produce. While it may be a difficult challenge, it provides an opportunity for our farm to become more efficient through all stages of the growing and post-harvest operations.

You were recently appointed as a member of the Working and Advisory Groups. What do you hope to contribute and get out of the process?

Being a part of the Leadership



Wrestling weeds off cucurbit crops

A local study has investigated a range of methods to help growers manage the significant problem of broadleaf weeds in cucurbit crops, writes Karen Shaw.

A groundbreaking Australian study into broadleaf weed management in cucurbit crops has identified new herbicides for national registration, as well as recommending more detailed research into techniques to tackle what is regarded as a major industry problem.

The scoping study, the first of its type for the \$300 million Australian cucurbit industry, provides much needed information on problem weeds and current management practices in Australia and overseas.

The 12 month project was funded by Horticulture Australia Limited, using the National Vegetable Levy with matched funds from the Australian Government.

Weed scientist and project leader, Professor Brian Sindel, believes the findings are a first step to understanding the difficulties many growers face with weed management.

"We found most farmers want and need more up-to-date information," said Professor Sindel.

Weeds compete with vegetable crops for soil nutrients, harbour pests and diseases and can impact on yield, with anecdotal figures suggesting a crop reduction of between 20 and 50 per cent in some seasons.

Cucurbits include pumpkins, melons, cucumbers and zucchinis and are grown commercially throughout Australia. But their sprawling

growth habit makes it difficult to manage broadleaf weeds easily.

The project found that many cucurbit growers already successfully used an integrated strategy of broadleaf weed control, which involved good cultivation, crop rotation, on-farm hygiene and using well-timed herbicide applications.

According to Professor Sindel though, the study uncovered a major problem in Australia - that there are few effective herbicides registered here specifically to control problem broadleaf weeds in cucurbit crops, without causing unacceptable crop damage.

"We examined what's happening overseas and identified several effective herbicides being used in the

US. We recommend more research into these herbicides, to better understand how they respond to Australian conditions, with a view to having them registered for use here," he said.

Research fellow Michael Coleman said that growers had also expressed concern about the possibility of resistance to the limited number of chemicals available here, so there was a definite need for more research.

He said growers were also worried about getting up-to-date information about effective products and techniques.

"Most rely on chemical companies for data and are really crying out for more on-ground horticultural knowledge."



While the study identified problem weeds, including blackberry nightshade (*Solanum nigrum*), which can stain fruit and host pests, and cathead (*Tribulus terrestris*), with its prickles that caused problems for pickers, among the most significant weeds was nutgrass (*Cyperus rotundus*). Growers found that its tough, pointed foliage pierced the black plastic used to mulch and inhibit weed growth and added to the cost and time involved in removing mulch after harvest.

While black plastic was currently a viable mulch alternative, many growers were also concerned about its long-term sustainability because of the increasing difficulty of finding environmentally friendly and cost effective disposal methods.

The report examined other innovative alternatives to black plastic. These included solarisation, which involves using clear plastic to heat up the soil and kill weed seed; biofumigation - planting a range of cover crops, including

mustards to suppress weed growth; and the investigation of other bio-herbicides. Of most promise though was Queensland research already underway into new biodegradable mulch.

The report cites that the mulch film being trialled appears to perform adequately, although some technical issues still needed to be overcome. Mr Coleman said growers had voiced concern about the current performance of biodegradable mulch, but all believed it was important to find alternatives to the conventional black plastic.

On-farm hygiene was also listed as important in the battle against broadleaf weeds. Mr Coleman said most farmers already cleaned equipment after use and were vigilant about weed control before seed set.

But other successful strategies included using permanent or set vehicle tracks through planted paddocks and stale and false seedbeds. Growers have found that the stale and false seedbed techniques, which involve preparing the seedbed

and allowing weeds to germinate before control with a knock-down herbicide, are effective.

Growers interviewed explained that timing was an important factor - whether waiting for the right weather conditions to spray or understanding exactly when to cultivate. Often achieving the correct timing could make the difference between having a weed-free crop compared with one that was densely populated with weeds at harvest. Others reported good results rotating cucurbits with sugar cane.

"Because the cane requires a different suite of herbicides, this helps break the broadleaf weed cycle," said Professor Sindel.

While the report has been presented to industry leaders, Professor Sindel is enthusiastic for the information to be disseminated to cucurbit growers.

"This is just the first step. But the industry now needs to be proactive and use the recommendations in this report to set future research priorities, to ensure the industry remains viable," he said.

THE BOTTOM LINE

A major study into controlling broadleaf weeds in cucurbit crops has recommended that industry:

- Investigate registering herbicides, commonly used overseas, for use in Australia.
- Further examine other innovative techniques for effective weed control.
- Help ensure all cucurbit growers have up-to-date knowledge to introduce best practice weed management to their farms.

The final report will be available through the AUSVEG website: ausveg.com.au

i For more information:

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Quay connection

In the second of *Vegetables Australia's* series profiling the link between high profile restaurants and the growers they source from, Jeremy Story Carter speaks to Quay restaurant head chef Peter Gilmore and grower Richard Kalina about their "almost symbiotic relationship of communication."

"We really do have a beautiful property," beams grower Richard Kalina. He may supply vegetables to three-hatted Quay, a restaurant that enjoys one of the finest views of Sydney, it's Opera House and Harbour Bridge, but you sense Kalina wouldn't trade his Blue Mountains location for anywhere in the world. In fact, in many ways, he and his Finnish wife did trade the world, or at least England and Europe, to be just there.

A high-end English

photographer, Richard Kalina and wife Nina purchased their Berridale, New South Wales property in 2004 after viewing it on the internet, and embarked on one very ambitious tree-change. After a decorated career photographing members of the Royal Family and international celebrities, Richard found readily available photographic work difficult to come by in Australia. The two therefore sought to generate an income from their property, growing raspberries and a

small amount of vegetables for themselves and the local co-op. Things would soon change for the Kalinas though, after a chance introduction.

"A friend of ours came to visit us, and we gave him some of our white and red raspberries. He took them down to his office, which he happened to share with the owners of Quay restaurant," says Richard Kalina.

A prominent figure on the Australian culinary landscape, Quay head chef Peter Gilmore

was likewise embarking on a venture of his own at the time. In the hope of broadening his palette and ensuring that Quay continued to move forward as one of the country's best restaurants, Gilmore had been searching for some time to find growers willing to supply rare and unusual vegetables for his dishes. On sampling some of their produce, he promptly invited the Kalinas to dine at Quay to talk about the potential of sourcing direct from their Berridale farm. The overlapping





Quay head chef Peter Gilmore.



of these two wildly different narratives would ultimately result in what Richard terms “an almost symbiotic relationship of communication,” however, the significance of the meeting was initially, perhaps, a little lost on the Kalinas.

“We had no idea what Quay restaurant was - it could have been a burger bar for all we knew,” laughs Richard Kalina.

“We took a load raspberries down and met all the people concerned, including Pete [Gilmore], and they came up to the farm to see us and they loved the place.”

In spite of having never grown vegetables before, the Kalinas tentatively agreed to grow for Quay on an ongoing basis. Richard admits that with little combined knowledge, the initial period was extremely challenging and it took some time to reap rewards for their work. Both he and Peter Gilmore chuckle at the memory of the Kalinas’ first delivery to Quay; a personally driven \$30 tray of pea seedlings. From Gilmore’s perspective though, it was Kalinas’ enthusiasm, and not their growing pedigree, that encouraged him to establish the relationship.

“It was really just their willingness to give it a go, and actually come down to Sydney twice a week and deliver directly to me,” says Gilmore.

Ranked #26 in the prestigious 2011 S. Pellegrino World’s Best 100 Restaurants list (the highest placing of any Australian restaurant), Quay sits at the pinnacle of fine-dining in Australia. A chef who radiates a passion for fresh and exciting produce, Gilmore test-grows vegetables in his own backyard

- now divided into 4x10 metre garden beds - where he trials rare imported seeds, before asking his network of growers, including the Kalinas, to grow larger quantities for the restaurant. It’s this commitment to unearthing the unusual that Gilmore views as being vital to his restaurant’s development.

“Restaurants at this top level, it’s all about giving customers something that is unique,” says Gilmore.

“It’s about going to that extra

“Restaurants at this top level, it’s all about giving customers something that is unique.”

effort, forming connections with farmers, directly with the chefs, that gives us better products.”

The Kalinas now deliver thousands of dollars worth of French breakfast radishes, purple carrots, bronze fennel and other heirloom and unusual produce. Included among their delivery are trays of tiny turnips, radishes and pea seedlings, delivered still in the soil. They are housed in a cool-room fitted with hydroponic lights at Quay, from which the restaurant’s chefs pick the vegetables just prior to each individual service.

“You couldn’t get it fresher,” says Richard Kalina.

“That has been a very exciting thing to do and work with.”

He cites their ability to effectively communicate with one another, and Peter

Gilmore’s continued enthusiasm for the Kalinas’ produce, as key to maintaining their relationship.

“One of the best things in the communication is that there’s an immediate understanding of where we’re both coming from, and I think that’s a very important thing as he has a requirement for what he wants to put on his plate,” says Richard Kalina.

“If it’s something unusual, exotic, delicious, textural, colourful, special, different,

significant role in maintaining and furthering the success of the restaurant.

“I firmly believe that the relationship with him, with us, with the farm, helps them to grow and cement him at the top of the tree,” says Richard Kalina.

The Kalinas’ association with Quay has seen their operations evolve and expand, and they now supply produce to a host of Sydney’s premiere two and three-hat restaurants. Richard insists, however, that “absolutely nothing would come out of the ground on [their] property” if it wasn’t for his wife Nina.

“She is incredible,” says Richard Kalina.

“She manages the vegetable paddock, the workers, the children, the house AND me. How she puts up with me, I have no idea.”

Gilmore says he will continue to test-grow his own vegetables and seek out similar relationships with other growers. Sourcing great produce, and coming up with innovative ways to arrange and enhance it, remain central to his continued passion for cooking.

“The creative process of coming up with new dishes is what does keep me going,” says Gilmore.

“In a way it’s like being an artist; you have your craft and your skill behind you and it’s really about how you put produce together, and how you look at different cooking techniques and different textures and flavours and how they all come about to make a really interesting dish, that’s original and unique. That’s really what keeps me going - that creative process.”

Pete will just jump in off the deep-end, because he gets very excited, which is fabulous.”

Gilmore suggests that the direct relationship he and his restaurant share with the Kalinas is now reflective of a broader international “movement,” but recalls that when he first began sourcing from them, there were few other comparable examples occurring elsewhere in the country.

“It really stood us out from the crowd,” says Gilmore.

“Working with a grower like [Richard] and getting produce on the plate that no one else had, it really did boost what we were doing. It’s an important element of what we do here at Quay.”

Richard Kalina too believes he and his wife have played a

Controlling anthracnose: a best practice guide

Recommendations for controlling anthracnose in lettuce crops are the focus of a new guide for growers, writes Karen Shaw.

A newly launched best practice guide lists improved cultural and chemical options to better manage anthracnose in Australia's \$187 million iceberg, cos and baby leaf lettuce industry.

Anthrachnose (*Microdochium panattonianum*) is linked to wet weather, and has become prevalent in crops in recent years as floods wreaked havoc across Queensland, New South Wales and Victoria. In 2010 alone, it caused more than \$10 million damage to crops Australia-wide.

CEO of Applied Horticultural Research, Dr Gordon Rogers, said growers had previously relied on selected fungicides for control, but these were becoming ineffective under high disease pressure. A problem was the difficulty of achieving good spray coverage at the leaf base, where infection often started. Prochloraz, the most effective conventional fungicide for disease control, could only be used on closed head varieties, such as iceberg.

Dr Rogers said the guide, funded by HAL using the

National Vegetable Levy with matched contributions from the Australian Government, had already been well-received.

In addition to improved cultural practices, it recommends that further research be undertaken into seeking Australian registration for fungicides that are currently in use overseas to control anthracnose in lettuce.

"Growers should not rely totally on fungicides," Dr Rogers stressed, suggesting these be used in conjunction with other improved cultural practices

such as good crop hygiene.

Cultural controls

"Be vigilant about crop inspection, removing any anthracnose infected plants early. Because if conditions are right, the disease can spread rapidly through crops," said Dr Rogers.

"The single most important way to reduce infection is to minimise the time lettuce leaves are wet."

Research found that optimal germination conditions for



Anthrachnose on the outer leaves on an Iceberg lettuce.



Prickly lettuce which is a suspected alternative host of lettuce Anthracnose.

anthracnose were a temperature of 15°C, together with eight hours of leaf wetness. Where possible, growers should irrigate in the early morning and use a drip or trickle system, rather than overhead sprinklers, said Dr Rogers.

Anthrachnose spores stay active in the soil for approximately 20 weeks, and can last up to 78 weeks on dry crop residues, making carryover of the disease between crops a significant issue. To help reduce further infection, it is recommended to plough in plant residue after harvest and add organic material such as compost to help maintain soil health.

“Planting a rotation crop, such as brassicas, from a different family can also help break the disease cycle,” said Dr Rogers.

Another effective technique was to leave unplanted buffer zones throughout the paddock. Research showed that anthracnose spreads through water splash and wind dispersal.

“But leaving a 10m bay between plantings can help



Anthrachnose close up on a lettuce leaf.

minimise infection between crops,” said Dr Rogers. Being vigilant about removing host weeds, such as the common prickly lettuce, could help reduce anthracnose.

“There is evidence that foliar applied calcium products may help reduce disease, if applied before infection,” said Dr Rogers.

Future

Overseas research is focused on developing anthracnose-

resistant varieties for the commercial production market. Yet plant architecture can also affect susceptibility to the disease. Varieties that trap water near the leaf base, such as cos, are more likely to become infected because of this growth habit.

The newly released disease management guide is an important industry resource for growers, and is available through the websites listed beside.

THE BOTTOM LINE

A newly launched guide to controlling anthracnose in lettuce crops recommends growers focus on:

- Cultural practices such as crop rotation.
- 10 metre buffer zones within paddocks.
- Removing infected plants.

This is in addition to maintaining a good fungicide spraying program during the growing season.

i For more information

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 or
 the Applied Horticultural Research website: ahr.com.au



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Growing the industry: Levy Payer meetings a success

Meetings for Vegetable Levy Payers' have been conducted around Australia, providing growers with an opportunity to see where and how their R&D levy funds are being invested.

AUSVEG has held a series of Vegetable Levy Payer meetings around the country, communicating industry findings and actively seeking feedback from growers.

As the peak industry body, AUSVEG represents over 9,000 vegetable and potato growers, and the meetings provided a chance to engage with vegetable growers on some of the key issues facing the horticulture sector.

AUSVEG CEO Richard Mulcahy said that it was the organisation's responsibility to

maintain a continual dialogue with the growers it represents.

"AUSVEG constantly strives to obtain feedback from growers to incorporate into our strategic plans and day-to-day outlook," said Mr Mulcahy.

HAL and AUSVEG each gave presentations at the nation-wide meetings, which were chaired by members of the Industry Advisory Committee, presenting the latest Research and Development (R&D) information and initiatives.

"It is the growers' levy that funds much of the industry's

R&D work, and they have the right to have a direct input in how their money is being invested," said Mr Mulcahy.

The meetings conveyed a renewed emphasis on R&D to investigate and greater understand consumer and market needs.

In spite of the issues currently facing the horticulture industry, Mr Mulcahy said the mood of attendees was generally upbeat.

"Our growers are currently working within an extremely difficult commercial environment, but with a clear

direction in the Vegetable Industry Strategic Investment Plan (SIP) and a focus on consumer-based R&D, they can be confident moving forward that the right investments are being made on their behalf," said Mr Mulcahy.

"These meetings show that our growers are tackling issues head-on and remaining positive, despite the many challenges they face."

Levy payer meetings will continue to be held periodically throughout the country by AUSVEG.

Minor-use permits

Permit Number	Permit Description (pesticide/crop/pest)	Date Issued	Expiry Date	Comments
PER7909	Scala (pyrimethanil) / cucumber / Botrytis	5-Apr-12	30-Sep-17	Extension of existing permit. For use in all states (excl Vic).
PER10656	Scala (pyrimethanil) / snow peas, sugar snap peas, protected cropping tomatoes / Botrytis	1-Jun-09	30-Jun-12	For use in all states (excl Vic). Residue data required in snow peas (in progress) and PC tomatoes.
PER11850	Lambda-cyhalothrin / parsley & coriander / RLEM, Rutherglen bug, Grey cluster bug, Looper, Plague thrips	5-Apr-12	30-Aug-15	For use in all states (excl Vic). Residue data required x 2.
PER11853	Imidacloprid / beetroot / aphids & thrips	10-Apr-12	30-Sep-15	For use in all states (excl Vic).
PER11935	Triadimenol / parsnip, radish, swede, turnip / Powdery mildew	5-Feb-12	30-Jun-17	For use in all states.
PER12565	Scala (pyrimethanil) / protected cropping lettuce and capsicum / Botrytis	5-Apr-12	30-Sep-17	For use in all states (excl Vic).
PER13029	Trichlorfon / custard apple, lychee, mango, persimmon / Fruit-spotting bug & Banana-spotting bug and other pests	11-Apr-12	31-May-14	For use in all states (excl Vic).
PER13076	Propamocarb / papaya (in nursery) / Damping off	5-Apr-12	31-May-17	For use in NSW, Qld, NT & WA.
PER13423	Abamectin / raspberry & blackberry / Two-spotted mite	11-Apr-12	31-Mar-13	For use in all states (excl Vic). Additional residue data required in blackberries for renewal - in progress.
PER13441	Permethrin / rhubarb / aphids, looper, Lightbrown apple moth, Heliothis	11-Apr-12	31-Mar-17	For use in all states (excl Vic).
PER13446	Chlorpyrifos / taro / African black beetle	11-Apr-12	31-Mar-22	For use in all states (excl Vic).

These permits have had their additional data requirements changed.

Full details of all permits are available on the APVMA website: www.apvma.gov.au/permits



Super Hieu Minh's hydroponics

Circumstances almost cost the livelihood of Hieu Minh Ly and his family. The ability to alter and innovate their growing practices instead now sees them at the head of the hydroponic sector.

Hieu Minh Ly bristles with energy and enthusiasm when he talks about hydroponics. He's proud of what he and his family have achieved to date, but more than that, he's fascinated by the potential of hydroponics and excited about the possibilities of what the future may hold. A Nuffield Scholar and proficient grower of Lebanese cucumbers and tomatoes, Ly and his family's success comes nonetheless from humble beginnings.

Ly's parents, who he describes as "normal business people, used to having their own business and making their own living," immigrated to Australia following the Vietnam War. After learning of the opportunities available in South Australia, they were among a group of Vietnamese to settle in Virginia in 1981.

"They heard about the Greeks and Italians living and growing in Virginia, [who] had been here since the 1950s and 1960s," says Ly.

"They had all made a good living so a whole group of them decided to come in and really liked it, and just stayed here and bought their own farm and started a family."

Like many immigrants before them, Ly's parents were subject to trying conditions and financial strain.

"From what I remember

growing up, we were pretty much left on our own, and were in extreme poverty," says Ly. "No one really helped us. You just got by with the jobs that were available."

That hardship instilled an outlook in Ly that has remained central to the rest of his working life.

"We grew up to learn that hard work is all that matters. It doesn't matter what job you're in, you just have to do what you can to make a living."

“ I went to France and Holland, and it just blew my mind... I saw all these beautiful greenhouses and what they were achieving, what yields they were achieving... I couldn't believe it. ”

A health-sciences student, Ly moved to Sydney and began working in a hospital, but things didn't quite work out. Having realised that he was "not a city-person," Ly was drawn back home to Virginia after significant developments with the family farm.

"While I was [in Sydney], the Government announced that they were going to take our land to build a new highway," says Ly.

"My parents' farm was basically decimated; they couldn't make a living off of what they had left, which was in the traditional soil."

The process of compulsory acquisition brought with it an exhaustive and protracted settlement period; something that nearly crippled Ly's family.

"By the end of it, we were really desperate. Almost to the point that we would have signed anything they put in front of us, because if it was to drag on any longer, we would have been in big trouble."

Sometimes innovation is born out of the most trying of circumstances though, and so it was that Ly and his family set about revolutionising their onsite practices and moved into the world of hydroponics.

"My parents had heard about hydroponics, which had become popular with a lot of farmers in the area, but they were reaching retirement age and wouldn't have been able to do it by themselves. So they asked me if I wanted to come back and help start the business with them."

The family invested the money received from compensation into establishing a hydroponic operation and, after a lengthy set-up period, produced a successful and popular first crop. Alongside his brother, who left his job as a mechanic in Perth to also return to the farm, Ly continued to build and further the family business. He spoke to other growers, suppliers and researched extensively to help improve his understanding of the field. But it wasn't until he ventured overseas that his eyes were fully opened to the potential of hydroponics.





Photographs by Andrew Beveridge.

can't control the price we get paid, but we can control our crops, which is something the Dutch have done really well."

Within the technically sophisticated field of hydroponics, any benefits are accompanied by heightened pressure points on production.

"We have to really be on top of our game. Small mistakes can make big losses. A lot of the time it's human error."

The growth in operations means the Lys' one hectare site is at complete capacity ("chock-a-block," says Ly). He is certain that they will one day expand operations, but at present he is merely focused on increasing the yield of his greenhouses.

"The better we get - say if I yielded an extra one per cent per square metre - then that will make up for any low prices. So I'm aiming for more yield per square metre, than actually getting bigger. We don't have any more land now anyway!"

Asked if he thinks his parents would be proud of his work in furthering the family business, Ly chuckles to himself.

"They probably are [proud], but they would never say it, because they want to push me to get better. My father and I sometimes get in big arguments about how to grow - he's from the old school and I'm kind of from the new school. But because we get really good yields, he hasn't really said anything lately."

"The Dutch probably get around 80kg a square metre. I reckon if I hit 80kg then they'd yell at me for not getting 85 [laughs]. It's probably a good thing - it keeps me trying to strive for more."

"I went to France and Holland, and it just blew my mind," recalls Ly.

"We were thinking of upgrading, building another greenhouse, but we didn't know what to do. I came back and said... it's got to be like a Dutch greenhouse."

It was an experience that dramatically reshaped Ly's views on his own surrounding environment and growing operations.

"I was always content with just doing what I was doing. When I was growing up, I thought Virginia must be the pinnacle of horticulture, because there's so many greenhouses, and so much fruit and veg going out into the market," says Ly.

"When I went and I saw all

these beautiful greenhouses and what they were achieving, what yields they were achieving and what they were doing... I couldn't believe it. They produce when their greenhouses are covered in a metre snow."

“ We have to really be on top of our game. ”

"Things are quite different here. If a season's yield is down you just say 'oh we'll make it up next season'. But over there, if they have a bad season, they'll pretty much go bankrupt. I just tried

to bring that concept back to Australia."

In 2010, Ly's progression and achievement in the field of hydroponics were recognised when he was awarded a Nuffield Scholarship, an honour he cites as "overwhelming."

The scholarship prompted another trip to the Netherlands, where Ly absorbed as much of the Dutch way of growing as possible.

"Before, we were scared of low-prices and things like that. But I got back and was like, 'we've got to focus on yield and production.' In Holland, if they can still do it on 30c a kilogram, it can be done."

"The thing I got was, other farmers in other countries, they have the same issues as us. We

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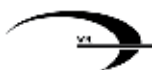
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Industry development program yields national R&D database

One of a number of key outputs of the Vegetable Industry Development Program (VIDP) has been a national R&D database containing almost all of the R&D that has been undertaken through the vegetable R&D program over the last decade. Now housing over 600 reports and with the program set to conclude June 30, *Vegetables Australia* reports on key outcomes and benefits of the program.

Conceived in late 2009, the Vegetable Industry Development Program (VIDP) was implemented to assist in achieving the industry's strategic plan at the time: to double the 2006 value of fresh, processed and packaged vegetables in real terms by stimulating and meeting consumer preference for Australian products in domestic and global markets. A lofty ambition, the program set about achieving its goal, through

a series of sub-programs each with distinctive aims, but linked together through national coordination.

The objectives of the program were, in essence, to make growers more market focused in their decision-making; produce useful consumer and market information; ensure a new generation of leaders were active in the industry; and assist in seeing R&D more actively applied by industry

stakeholders.

A range of sub-programs, including economics, consumers and markets, knowledge management, people development, and a local partnerships program InnoVeg, among others, were created. AUSVEG was contracted to distribute the Veginsights reports and provide communications support for some of the key findings.

Monthly and quarterly reports

on consumer and market trends, fact sheets on topical issues and business cases to assist growers in decision-making about machinery and other on-farm issues are some of the key items that have been developed and refined over the three-year program.

Read more about the key outputs of the program over the page



Registering for the Knowledge Management system

1. Go to ausveg.com.au in your web browser.
2. Click on 'Register Here' on the right near the top of the screen.
3. Enter your details, including email and contact information, then click submit.
4. Within 24 hours your registration request will be approved by AUSVEG.
5. Once your registration is approved, login to ausveg.com.au using your username and password.
6. Access over 600 R&D reports produced through the investment of the National Vegetable Levy by clicking through to 'Technical Insights'.
7. Search the R&D database by focus area, research area or vegetable type.
8. Call AUSVEG on (03) 9822 0388 if you have any questions.

▶ [Register Here](#)

Key outputs

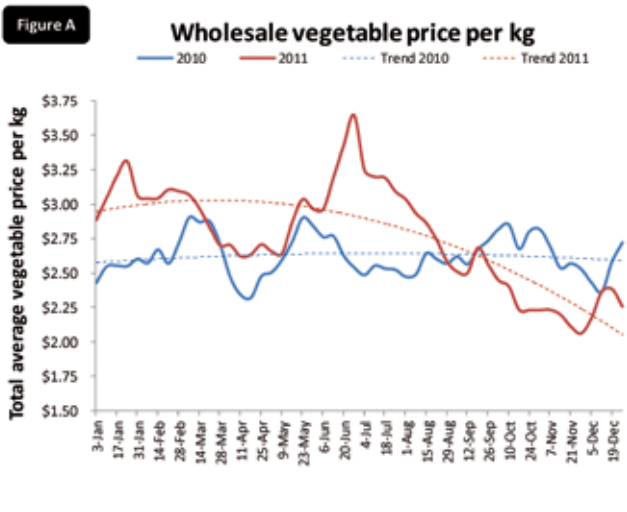
Economics

- Information on the domestic industry, trade, vegetable spotlights, vegetable industry financials and discussion papers are available on the AUSVEG website.



Consumers and Markets

- Veginsights monthly and quarterly reports published to provide market information and trends in consumer behaviour to assist growers in becoming more market aware. The archive of all reports is available by logging into the AUSVEG website.



Knowledge Management

- A national R&D database developed containing all the R&D completed since the early 2000s including over 600 reports; the national database can be accessed by registering through ausveg.com.au and logging in and clicking 'Technical Insights'.



Communications support

- In excess of 800 media hits about industry development achieved since commencement of the program.
- Briefings on how to use the Knowledge Management system conducted with key industry service providers.



Source: *The Weekly Times*

InnoVeg

- A range of fact sheets have been developed and published on the AUSVEG website under the R&D tab, on topics including: succession planning, business decision making, soil health, mega pests, gross margins, spray application basics and plant biosecurity, among others.
- A range of business cases have been developed to assist vegetable growers to make informed business decisions on a range of topics, including purchasing new machinery, adopting Integrated Pest Management (IPM), or land purchase versus lease. The business cases can be tailored to help you with your own decisions by inserting your figures into the calculations and are accessible under the R&D tab on the AUSVEG website.



People Development

- Several training seminars were conducted on managing staff in selected regions around Australia, and support was provided in promoting various leadership programs, including Growing Leaders and the Nuffield Farming Scholarships.
- Information, including some video content, on topics such as business skills development, leadership programs, mentoring opportunities, skills and training resources and career options, was produced and is now available by logging into the AUSVEG website and clicking 'People'.



Soil solutions

with Rohan Davies



Nutrient sources for crops

Rohan Davies, Technical Agronomist - Horticulture at Incitec Pivot Fertilisers discusses fertilisers and nutrient sources for crops.

Question: Which fertiliser source is best for my crops?

Plants can obtain the essential nutrients they require from a wide range of sources. When deciding which fertiliser is best suited to your crop, it is important to consider how effectively the plant can take up the nutrients.

Water and nutrients can be taken up by plant roots or leaves. However, nutrient uptake through leaves will only ever supply a small amount of the plant's total requirements. This is due to the leaves' sensitivity to applications of large concentrations of foliar nutrients.

The risk of damage to plants is reduced when nutrients are applied in smaller concentrations, and when plants grow quickly.

There are two ways dissolved nutrients can enter leaves:

- Through the stomata
- Through the cuticle, or microscopic openings in the cuticle

Since the stomata are mostly situated on the underside of the leaf, good coverage of both the under and upper side of leaves is necessary for more rapid and complete uptake of foliar fertiliser.

The cuticle itself will swell when it absorbs water, allowing some dissolved nutrients to diffuse into the plant.

To ensure optimal uptake of nutrients, foliar fertilisation should be carried out when relative humidity is high, such as early in the morning or late in the afternoon.

There are also differences in the rates of uptake of individual nutrients, as Table 1 shows.

There are four main product sources for nutrients - inorganic, synthetic chelates, natural or organic complexes, and fritted glass products.

Organic sources have not been discussed here, but may be used to supply a range of plant required nutrients depending on whether nutrients are rapidly required.

Table 1. Timeframe for absorption of 50% of nutrients by plant leaves

Nutrient	Time needed to absorb 50%
Nitrogen	1 to 6 hours
Phosphorus	1 to 5 days
Potassium	1 to 4 days
Manganese	1 to 2 days
Zinc	1 day
Magnesium	20% within 1 hour
Iron	8% within 24 hours

Source - BASF (1977). Note: leaf uptake may be more rapid if the nutrients are applied in chelated form.

Table 2. Zinc sources

Source	Water solubility	Elemental %
ZnSO ₄ .H ₂ O (Zinc Sulphate Mono)	Yes	36
ZnSO ₄ .7H ₂ O (Zinc Sulphate Hepta)	Yes	22
ZnCo ₃ (Zinc Carbonate)	No	52
ZnO (Zinc Oxide)	No	60-78
Zn Oxysulphate	Variable	18-60
ZnEDTA (Chelate)	Yes	6-14
Zn HDTA (Chelate)	Yes	9
Zn NTA (Chelate)	Yes	9
Zn lignosulfonate	Variable	5-9

Source: Adapted from UNIDO & IFDC (1999), Mortvedt et al. (1999).

Plant availability

Inorganic nutrient sources include oxides, carbonates and metallic salts such as sulphates, borates and molybdates.

Sulphates tend to be the most common inorganic nutrient. Oxides are also commonly used, but are not water soluble, so their availability to plants is limited.

Industrial by-products can also be seen in the market and are typically formed by acidulating oxides with sulphuric acid to form oxysulphates. Acidulation can improve the water solubility.

Synthetic chelates (derived from the Greek word chele or crab's claw) are formed when a chelating agent binds to a metallic cation.

The stability of these bonds helps to improve the availability of the nutrient to the plant.

Chelates are typically two to five times more effective than inorganic sources but may be five to 100 times more expensive (UNIDO & IFDC 1998).

All chelates are in the form of acids, so the pH of the soil plays an important role in the stability and availability of the nutrients.

Natural organic complexes are made by reacting a metallic salt with an organic by-product e.g. lignosulphate. Not a lot is known about how these complexes are formed and it is difficult to determine their stability.

These products tend to be less expensive than the chelates, but are usually less effective (Mortvedt et al.1999).

Fritted glass products (Frits) are glassy products in which the nutrient solubility is controlled by the product's particle size and matrix composition. They are usually used in sandy soils in high rainfall areas. Their use in Australia is not widespread.

There are many different sources to supply the nutrients crops require. There are nine forms of zinc, for example, with varying elemental nutrient content and water solubility. See Table 2.

In summary, it is important to determine the effectiveness of nutrient uptake and compare costs on this basis, rather than just looking at cost per unit of nutrient when making nutrient purchasing decisions.

Soil nutrition questions

Please send your soil nutrition questions to *Vegetables Australia*.

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Dean Phillips: Fighting for a *Phytophthora*-free future

A young Victorian man may be on the brink of producing an inhibitor for one of horticulture's most significant diseases.

“Generally, I’m here all the time,” laughs 29 year-old Dean Phillips, speaking from his lab at Deakin University. Excited but exhausted, Phillips finds himself on the path to curing one of the world’s most devastating plant diseases, *Phytophthora*. What started as a proposal for an Honours thesis five years ago has developed into one very exciting piece of research for the horticulture industry. Now flanked by a team of specialist researchers, Phillips recently received a \$22,000 Horticulture Australia Limited grant to aid and further his research. So how does such a young Victorian stand to make the sort of impact most researchers only dream of?

“I got interested in plants a long time ago,” recalls Dean. “My Grandma taught me all about orchids and things like that, so I always had a general interest in plants.”

A Diploma of Natural Resource Management at Swinburne University started off his environmentally-focused academic pursuits, but it was within a Bachelor of Environmental Science degree at Deakin that he began to marry that passion with an interest in molecular biology.

“I got interested in the application of molecular biology in solving environmental problems. It’s a very small field at the moment, but growing pretty quickly,” says Phillips.

“It’s this idea of applying basically what they’ve done with human drugs and things like that into environmental settings, whether it be antibiotics for plants or all sorts of things.”

Having completed his degree, Phillips approached Deakin Associate Professor Peter Beech with a proposal for his Honours that incorporated that very idea.

“I was pretty lucky really, that I was able to find someone who was willing to give me a go at trying something totally new,” says Phillips.

“I went away and searched... I was looking in particular at *Phytophthora*, and searched through the genome.”

A disease that spans across

the field of horticulture, *Phytophthora* stands as one of the industry’s most diverse and significant threats. Phillips suggests that there are more than 100 different species of *Phytophthora*, each with different host-plants.

“Once you have infection, the death is pretty quick,” he says.

Given the potential commercial implications of the project, Phillips at this stage can only be vague when discussing his findings, however he loosely describes his research in the following manner.



“The idea of developing a cure for this disease is what keeps me going.”

“There’s a missing gene that is actually in every living organism. It’s a gene that’s critical for cell-division... I basically came up with this hypothesis that *Phytophthora* has this alternative [gene] that does that same job but looks totally different.”

While his work has focused predominately on *Phytophthora sojae*, which is specific to soy beans, Phillips aims to produce an inhibitor that targets this alternative gene and therefore, would be applicable to all strains

of the disease.

“The idea is to actually make a drug that is applicable to all the *Phytophthoras*, so it didn’t matter what problem you were facing, the antibiotic should be effective,” says Phillips.

The project remains in its relative infancy, but looking towards the future, Phillips envisages a product with a conventional application and limited adverse environmental effect.

“The hope would be that we could spray it, either by aerial spraying or just normal spraying

March of this year saw Phillips’ work to-date recognised by HAL, when he was presented with a \$22,000 grant at a gala dinner in Canberra by Minister for Agriculture, Fisheries and Forestry, Senator The Hon. Joe Ludwig. The grant is designed to support the project, and Phillips says it has stimulated an even greater sense of urgency into his work.

“It’s all a bit of a buzz at the moment,” he says.

“It’s sped things up a lot, so now we’ve got a few more people working on the project. The uni has become very excited by the work as well.”

Far from begrudging the presence of others working on an idea he conceived, Phillips instead welcomes the extra assistance and expertise that has been brought to his work.

“It’s a nice collaborative project... You need such diverse talent to go from a [genome] sequence through to an actual antibiotic. So realistically, we need as many people as possible working on it to get it out to market as fast as possible.”

For all the progress that he and his team have made however, Phillips still remains a long way from achieving that goal of producing something for use in the broader horticulture industry. The process of designing an antibiotic is significant, as too is the process of patenting one. Phillips says a provisional patent has been registered, but he will seek the assistance of larger agricultural chemical companies to further the process. In spite of that, he suggests it will be many years before his work on the project is complete. It is an intimidating prospect for a young man yet to turn 30, but Phillips remains determined to see the idea realised.

“It’s pretty daunting when you’re looking down a sort of 10-year project at least, to get something out into the marketplace. But it’s exciting at the same time. The idea of developing a cure for this disease is what keeps me going.”



Report reinforces sustainable standards

A new report by global consultancy Ernst and Young, *Leading corporate sustainability issues in the 2012 proxy season: Is your board prepared?*, shows the increasing importance of environmental performance to global company executives.

According to the Ernst and Young report, *Leading corporate sustainability issues in the 2012 proxy season: Is your board prepared?*, companies are under mounting pressure by investors to demonstrate a solid “triple bottom-line” of environmental, social and economic performance. Investors are increasingly demanding that companies develop sustainability policies and are putting pressure on boards across the globe. The report also states that companies are using sustainability as a strategic way to manage media coverage and government regulation.

The report includes a survey conducted by Ernst and Young with company executives, which found that the top five factors driving sustainability initiatives in business were:

- Energy cost reduction
- Changes in customer demand
- Brand risks
- Increased shareholder expectation
- Competitive threats


In this way, sustainable practice is becoming an important driver of business behaviour in the modern economy. In the global survey of company executives, 66 per cent reported an

increase in sustainability-related enquiries from investors in the past year, while 83 per cent of respondents said their company was actively working with suppliers to put sustainability initiatives in place.

The flow-on implications for the vegetable industry are that, as the larger companies continue to adopt sustainability initiatives, increased pressure will be put on suppliers and intermediaries in the supply chain to prove environmental performance. As companies such as large retailers respond to investor and consumer demands for sustainability, we can expect further pressure on

the horticulture sector to adopt environmental practices.

Helping growers adapt to this new business environment is a key role of the EnviroVeg Program. The Program is a tool that growers can use to assist in managing their environmental performance on property. Through the Program, AUSVEG provides a number of information resources developed specifically for the vegetable industry.

 For more information:
The Ernst and Young report can be downloaded at: www.ey.com

Saving fuel on the farm

EnviroNews presents some helpful tips to save fuel on the farm, courtesy of an Auburn University and Alabama A&M University cooperative research project titled *Fuel Conservation Strategies for the Farm*.

Minimise idling times

For modern, electronically-controlled diesel engines, 10 minutes is usually sufficient to warm up and cool down tractors and other equipment. Excessive idling during break periods can lead to unnecessary fuel use.

Reduce excess weight on equipment

Keep trucks and other hauling equipment cleaned out. Lighter loads require less energy to move.

Inflate tires to appropriate pressure


Keep tires properly inflated. Inflation pressure is an important variable for traction efficiency, tire life and ride comfort - especially for radial

tires. Check your owner's manual or the tire distributor for suggestions on inflation pressure. Improperly inflated tires can reduce fuel mileage and tire life expectancy.

Perform routine maintenance

Routinely replace fuel, oil and air filters and use the proper grade of motor oil in all vehicles,

tractors and other equipment to keep them operating at peak efficiency. Consult your owner's manual for the proper timing and list of maintenance operations.

 For more information:
The full report can be accessed at www.aces.edu

Tips for completing your annual self assessment

The self assessment process is important for all participating growers in the EnviroVeg Program. The process will assist you to manage and benchmark your environmental performance each year. This helpful guide will assist you in preparing to complete your annual self assessment.

Use the tools outlined in the Program Manual

The EnviroVeg Program Manual contains a number of helpful spreadsheets and management tools to help you plan environmental management on your property.

Look at what you are already doing

Growers who complete quality assurance schemes or are active in local Natural Resource Management bodies traditionally receive strong results against the EnviroVeg Program

criteria. Where possible, review the chemical handling documentation, soil-test results or other activities you have completed throughout the year.

Ask your coordinator

The AUSVEG Environment Coordinator is always available

to help growers through the self assessment process, which can be completed in around 10 minutes over the phone. Contact the AUSVEG Environment Coordinator Jordan Brooke-Barnett by calling (03) 9822 0388.

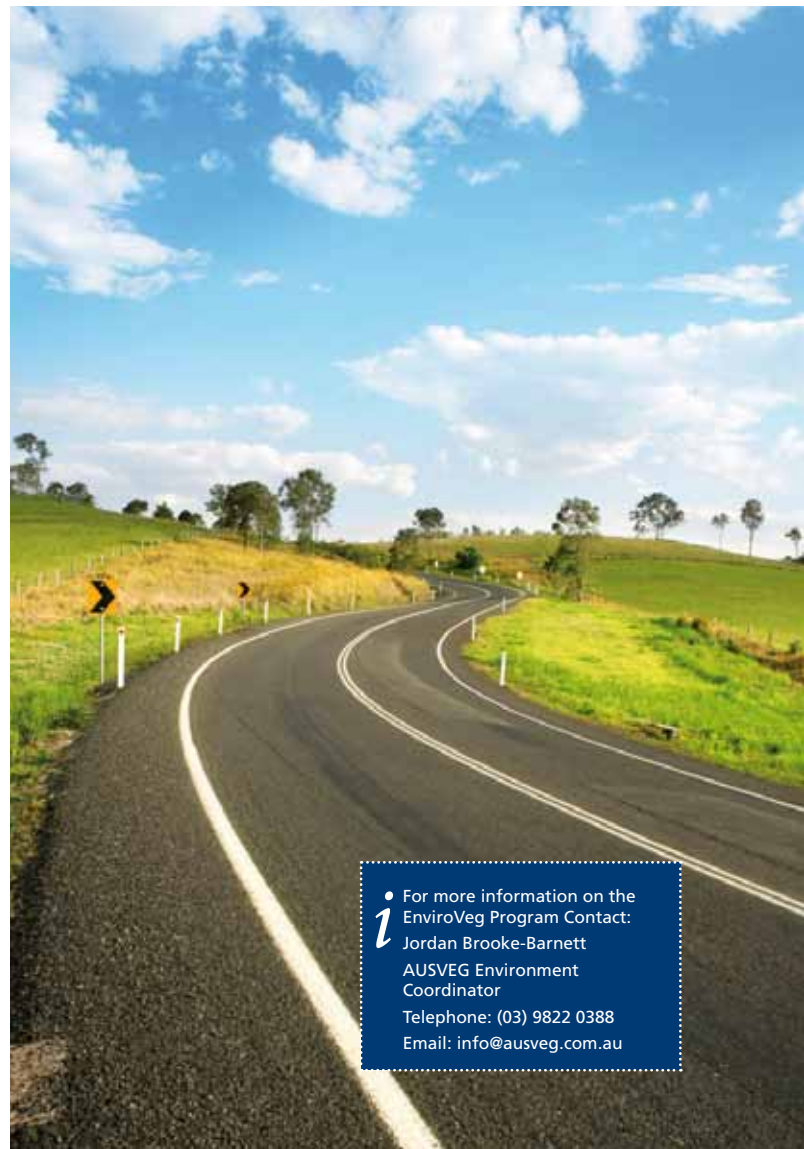
EnviroVeg on the road

Over the past month, AUSVEG Environment Coordinator Jordan Brooke-Barnett has visited regions throughout Australia to encourage participation in the EnviroVeg Program. A strong turnout of growers attended a number of community events across Australia, held in Wanneroo, Bathurst and Devonport.

Growers had the opportunity to hear from leading industry speakers during the latest series of EnviroVeg information sessions. Topics included innovative ways to apply precision agriculture techniques in the vegetable industry, ways to fine tune

irrigation performance and the balanced use of nitrogen fertiliser applications.

AUSVEG are currently finalising forward plans for the next series of information sessions, so get in touch with Mr Brooke-Barnett if you would like EnviroVeg to visit your region.



i For more information on the EnviroVeg Program Contact:
 Jordan Brooke-Barnett
 AUSVEG Environment Coordinator
 Telephone: (03) 9822 0388
 Email: info@ausveg.com.au

Adams adapting for future challenges

After a decade spent as a teacher, Belinda Adams returned to her family business and has fast become a young leader in the industry. A focus on environmental best practice and efficiently managing growing inputs make her a shining example for sustainable hydroponic production in Australia. From her property in Worongary, Queensland, she shares her passion for environmental values with AUSVEG Environment Coordinator Jordan Brooke-Barnett.





After ten years spent as a teacher, Belinda Adams returned to the family growing business and has assumed a leadership role within the industry. As the new Queensland representative on the EnviroVeg Committee, she has become a contributor on environmental management practices within the Australian growing community.

Following many years spent farming near Wagga Wagga growing broadacre crops, Mrs Adams' family moved to the Gold Coast, where her father started one of the first hydroponic growing operations in Australia. In the following years, the venture grew to become a prominent supplier of leafy vegetables and herbs from its Worongary base.

"We originally started with a few wholesale outlets and a retailer, approaching them at the back dock," says Mrs Adams.

"We started out in a couple of stores delivering just the lettuce. When my brother came in we ended up securing the business for Queensland with bunched herbs (for a major retailer)".

Mrs Adams is excited by the potential of hydroponic growing practices in Australia.

"It took a little bit for the retailers to take up, but now it is a massive industry."

The business then moved into processing where, concerned about wastage from whole lettuces, processing facilities were added to produce salad mix.

"We were cutting up a lot of lettuce and losing a lot of lettuce. Mum said 'why don't we cut it up and sell it as a mix'."

It was soon after that the business upgraded from a three to ten acre growing and processing operation. They are now a key supplier to major retailers in Queensland, while also pursuing the wholesale markets under its own brand.

Hydroponic operators have their own unique challenges in the form of energy and water management. The advantages of hydroponic growing, however, are that the growing environment can be highly-controlled, ensuring that plants only receive the nutrients and water they need to grow. That water can also be continuously recycled throughout the system.

"We only use 10 per cent of the water that you would use to grow the same crop in-ground, so realistically we have a 90 per cent saving."

Additionally, pesticide usage is about 90 per cent less than in-ground farming, as sprays can be applied directly to individual plants in a controlled environment. In general, Coastal Hydroponics faces less disease and pest issues through hydroponic farming, reducing their reliance on pesticide use by only spraying when pest or disease incursions occur.



The computerised hydroponic management system employed by Coastal Hydroponics uses around 20 per cent less fertiliser than many comparable in-ground operations. This is due to the fact that nutrients are applied directly to the plant root zone.

"We measure everything through our system, which allows us to manage everything our plants need to grow," says Mrs Adams.

The system regularly monitors growing conditions such as pH, conductivity, temperature and valve operation. This allows the business to grow in a highly-controlled environment and effectively manage pests and quality of product. In times of high rainfall, the system will also monitor water levels to ensure that stored water is not used on the plants.

Precise use of nutrient dosages through the system ensure that plants receive only the nutrients they need and have helped to ensure that all growing inputs are managed efficiently.

"An expert is on-hand to formulate our nutrient mix to have the best benefit for our plants... The dosage for each

plants fulfils their need at any time."

This ensures that synthetic fertilisers are used efficiently and that the business is able to control growing expenses.

"We only use what we need to get the results, so the loss (of nutrients) is very minimal," says Mrs Adams.

Intensive production on a smaller plot of land allows Coastal Hydroponics to be situated close to wholesalers and customers, limiting transportation costs and use of fuel. This allows the business to limit the fuel used in the production and transportation of goods. In addition to production issues, Coastal Hydroponics also carefully examines the wastage produced by the business. The business reuses and washes returnable crates over wax boxes and recycles as much of the packaging used as possible.

An eye on the future

Energy use continues to be a concern for the business, with cool room, processing and the hydroponic system all contributing to a significant cost for the business.

"We're running a number of pumps so energy consumption is a main issue. In terms of cool rooms, we draw a lot of power so energy is a hefty chunk of our expenses," says Mrs Adams.

Energy management strategies employed by the business include picking and processing in intensive batches so that production is running at full capacity when cool room, packing and processing equipment is in use. Mrs Adams is also exploring opportunities with energy providers to utilise roof space on her facilities for a solar farm.

"We estimate we will require about 120 kilowatts to get off the grid and become self-sufficient. In terms of our cost savings, it will have a great effect in not drawing off the grid and generating our own energy."

Situated nearby population centres and with Belinda Adams' strong focus on the future of the business, Coastal Hydroponics is well-positioned to thrive in coming years.

"I see our market potential as more or less unlimited, with the growing population in the region. We're currently looking to expand the facility, so we are looking at systems which draw less power from individual areas."

World ag-venture

The sheer volume and scale of vegetable growing operations in the United States was enough to make some of Australia's most prominent vegetable producers sit back in awe. As Andrew White reports, over 13-days in February eight vegetable growers on the 2012 USA Grower Study Tour visited some of the biggest vegetable producers in America.

Whether it was 'worshipping at the green shine' of the John Deere tractor factory in Illinois or visiting a global leader in pest management and biotechnology products at Dow AgroSciences headquarters in icy Indianapolis, eight growers on the 2012 USA Grower Study Tour had a mountain of information to absorb as they made their way across the United States and explored a range of farms throughout the windy roads of the Salinas Valley in California.

With a focus on mechanisation, emerging and innovative new farming practices, equipment and technologies, the study tour kicked off on the west coast, where the group visited the 47th annual Colusa Farm Show, affectionately known as the 'the granddaddy of farm shows'. With a row of pickup trucks as far as the eye could see, the regional farm show featured a vast range of farming equipment, with a particular trend toward precision agriculture. Everything from GPS to lasers and the latest high-tech optical equipment was on display at Colusa.

A range of companies in particular exhibited products that caught growers' eyes, with participants impressed by the array of high-tech bed formers available from Veda Farming. A

company called Water Changers also had some interesting wares on display. Their units apply negative charges to the water in order to break the hydrogen bonds between the water molecules. The company claims the product can reduce iron bacteria, scale, corrosion and other toxins in water, as well as allowing water to form smaller

pumpkin carnival. Having held discussions with the proprietor, the tour group identified that labour in California is incredibly cheap - roughly half the amount we in Australia pay as a minimum wage. Water comes from wells in the area, and while the water table is only 8 foot deep, growers in the area can pay \$25 per acre for unlimited

company John Deere. The program included a visit to the John Deere headquarters and display floor, the official store, and an insightful guided tour of the tractor factory and assembly line in Waterloo, which served as a real highlight of the tour.

A visit to Dow AgroSciences headquarters in Indianapolis was similarly well-received, where the group was allowed exclusive access to global figures in the chemical and biotechnology fields and a tour of the research facility. A full day of presentations on the latest R&D that underpins product development within Dow AgroSciences was of enormous benefit to the growers involved, who had the opportunity to ask questions and network with key international contacts within the company.

The cornerstone event on the tour was, of course, the World Ag Expo in Tulare, California. It stands as the world's largest agricultural exposition, with 1,600 exhibitors displaying the latest in farm equipment and technology on 2.5 million square feet of exhibit space. Growers had the unique opportunity to speak to the 'frontline' experts representing each of the product manufacturers, assisting them to understand key details about implementation challenges and benefits.

A few of the many 'take

“ An eye-opening insight into the production challenges and innovations that power the food bowl of America. ”

water droplets in order to better penetrate the soil and absorb into the plant.

The second day of the tour saw the group visit Vierra Farms just outside Sacramento. Vierra is a 200-acre producer of broccoli and pumpkins, that makes a significant amount of revenue from agro-tourism. An astounding 7000 school kids attend the property on Halloween each year for the big

water, plus pumping costs and a reclamation fee. The reliance of the American growers on their Pest Control Advisor (PCA) was of particular fascination, as they exhibited a far greater dependence on that source of technical advice than growers back in Australia.

Over the following days, the group headed east to Moline, Illinois; the home of the 175-year old pioneering equipment





away' messages from the Expo were in relation to the following products:

- Durable poly pipes made by Certa-Set that may avoid leakage and offer greater flexibility for growers than aluminium.
- Trends toward using optics for grading, spraying and cultivation, including weed finders using cameras to cut down on input costs and optical grading to reduce labour.
- An electrostatic sprayer made by ESS, which the company says can provide better coverage and reduce costs using electrical charging that causes a natural force of attraction between the spray droplets and target surface.
- Practical notebooks / spray diaries made by Rite in the Rain that don't smudge in the wet.

- Variable rate irrigation equipment that aims to improve efficiency and lower production costs by applying water based on topographical information.

- Selective spray units that can provide more accurate monitoring and control for spray applications.

The tour culminated with a second leg of farm visits, as the group traversed the Salinas Valley, including trips to smaller and larger farming enterprises and processing facilities.

Arguably the biggest row crop producer in the world, D'Arrigo Bros, who trade under the Andy Boy label and farm around 30,000 acres of farming land, has been in operation since 1927, with production centred around Cos lettuce, Broccoli rabe and cauliflower. Tour

participants were fortunate to visit their 100,000 square foot shipping facility, headquarters and be granted a tour of one of their farms.

The visit to Cherta Farms, a 100-acre producer of a range of Asian vegetables, provided great context and enabled growers to observe the many challenges of farming on a smaller scale, while Bolthouse Farms, one of the two largest carrot producers in the United States, featured room-upon-room of automated carrot processing, packing and sorting facilities – the epitome of large-scale production. One of the most notable aspects at Bolthouse was the control room, which featured live vision of the whole facility and a central controller who was constantly adjusting settings on the various

machines to ensure optimum efficiency. Optical technology using cameras checked for deficiencies in the product quality and shot a parcel of air at faulty carrots, slinging them off the conveyer belt and into a separate juicing production line.

Overall, growers said they came away from the tour with an eye-opening insight into the production challenges and innovations that power the food bowl of America. The scale and volume of vegetable growing operations was impressive, and participants found the networking opportunities extremely beneficial. The study tour was funded by HAL using the National Vegetable Levy and matched funds from the Australian Government.





Israeli agricultural technology breakfast

On Monday 27 February, AUSVEG Director and grower Luis Gazzola and other AUSVEG representatives attended an Agriculture Breakfast Briefing in Melbourne, hosted by the Israeli Trade Commission, the Embassy of Israel and the Australia-Israel Chamber of Commerce.

The special guest speaker at the Agriculture Breakfast Briefing was Israeli Minister of Industry, Trade and Labour, the Honourable Shalom Simhon, who has previously held the position of Minister of Agriculture and Rural Development and was a farmer prior to his political career. The Minister took the opportunity to introduce the 18th International Agricultural Technology Exhibition, *Agritech Israel*, which will be held in Israel 15-17 May this year.

Israel's land mass, 20,700 square kilometres, is minuscule in comparison with Australia's, 7,617,930 square kilometres.

Israel has a shortage of land and water resources. 80 per cent of its agricultural factories and 50 per cent of agricultural jobs are located in central Israel. One of the speakers at the breakfast, Dr Orna Berry, identified that Israel needs to expand its industry into its northern and southern regions to ensure a more uniform distribution of industry and economic activity. Despite the differences in land

mass, Israel and Australia face similar agricultural challenges as a result of drought conditions. To contend with its low rainfall, frequent dry spells, and problematic sand and clay-ridden soil, Israel has become technologically innovative. Israel invented the drip irrigation system, and continues to make inroads into water recycling, water retention, glasshouses, fertiliser and seed development technologies. As a result, Israel is now using 60 per cent less water than it has done in the past, with 80 per cent recycled.

In recent years, Israel's agricultural industry work force has reduced from 17 per cent to 2.5 per cent. With labour costs decreasing and increased production output as a result of technological advancements, Israel's agricultural industry is a model for what can be achieved in the face of unfavourable conditions.

Given our shared agricultural problems, there is clear benefit for Australia's agricultural industries to learn from and harness Israeli technologies. Australia and Israel have a



[L to R] - Luis Gazzola, the Hon. Shalom Simhon, Richard Mulcahy, William Churchill and Christopher Ritchie at the Israeli Agricultural Technology Breakfast.

long history of cooperating on technologies involving irrigation, greenhouses, and fertilisers. Both countries have also collaborated in capacity building activities in Pacific nations. Among the speakers at the breakfast were

representatives from companies Amiad, Netafim, Toro and Haifa Australia. The representatives spoke of the close relationship between Australia and Israel, and highlighted their agricultural technological partnerships.

Ask the industry

with Scott Mathew

Scott Mathew, Technical Services Lead at Syngenta, discusses how to target soil-borne diseases.

I receive many phone calls from growers wanting to understand why an application of a crop protection product for soil-borne diseases may not have worked as effectively as it had previously, or as they expected that it would. Below are some of the questions I have received on this matter.

Question: If I am targeting soil-borne diseases after I have planted the crop or it has emerged, where should the application be targeted at?

I have had this question many times from growers targeting two soil-borne diseases, in particular pink rot (*Phytophthora erythroseptica*) in potatoes and *Pythium*, with products like Metalaxyl (e.g. RIDOMIL GOLD MZ). The answer is that the target for soil-borne diseases is the soil, and the fungicide application should be applied in such a way that the majority of the applied product hits the soil surface. The fungicide should then be incorporated either by rainfall or irrigation as soon after the application as possible. Irrigation will generally give the best results as the depth at which you incorporate the fungicide can be controlled.

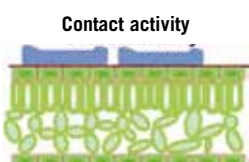
Pink rot is a soil-borne disease. The aim of the follow-up RIDOMIL GOLD MZ® applications should be to target applying most of the fungicide on to the soil so that it can be moved into the soil profile with moisture, to offer further protection against pink rot.

Question: If the product is labelled as a systemic fungicide, why do I have to target the soil rather than apply it to the foliage and let it be translocated to the roots of the crops?

Because a fungicide is labelled as being a systemic, it does not mean that it travels throughout the entire plant. Of the many fungicides registered for use in Australia, almost none translocate throughout the entire plant (that is, via the xylem and phloem). Most systemic fungicides are only translocated upward in the plants xylem (water-conducting) vessels. This type of translocation is termed apoplastic (or acropetal) translocation, whereas adequate distribution of a fungicide in the phloem (nutrient-conducting) tissues is termed symplastic (or basipetal) translocation, which would include translocation down into the roots.

A better classification could be:

- Contact activity: stay and control diseases on the plant surface (e.g. BRAVO WEATHERSTIK®).



Scott Mathew, Technical Services Lead at Syngenta

- Translaminar activity: move from the applied plant surface through to the opposite plant surface and very localised redistribution around the application site within tissue (e.g. Cabrio).

- Xylem / Acropetal mobile: move within the xylem in an upwards and outwards direction from the site of application (e.g. AMISTAR TOP®, RIDOMIL GOLD MZ).

Can move in the following directions:

- Root to shoot (e.g. soil drench)
- Within the leaf
- From stem/leaf sheath to leaf
- Bud to leaf

- Phloem/basipetal mobile: move within the phloem, mostly basipetal (downwards) but also acropetal (upwards) (e.g. phosphorous acid - various).

Can move in the following directions

- Shoot to root / tubers
- Leaf to bud
- Leaf to leaf transport

The take-home message as growers is that before applying a fungicide, you should ask how it moves within the plant and identify what you're targeting with the fungicide application, the soil for protection of the plant's root system or the foliage for protection against foliar diseases etc.

In summary, all fungicides, even within the systemic group, do not act the same way after application. Therefore, your application methods, product choice and application timing should take into account these differences.

Ask the industry

If you have a question that you would like addressed, please call Syngenta on 1800 067 108 or email *Vegetables Australia*: info@ausveg.com.au Please note that your questions may be published.

Import deluge

swamping the Australian vegetable industry

A range of new economic data points to difficult times ahead for growers, writes industry economist Ian James.

Trade data for the first eight months of this financial year show a sharp deterioration in the vegetable industry's trade performance. Imports are flooding in at an unprecedented rate, while exports are declining. The value of imports is up 23 per cent on the corresponding period of the previous financial year (\$476m compared to \$387m), while the value of exports is down 8.5 per cent (\$148m compared to \$162m). This rapid deterioration, if continued for the rest of the financial year, will deliver the worst trade performance ever by the industry, with the trade deficit blowing out to over \$400m. Less than ten years ago, Australia had a positive trade balance in vegetables. Over the last decade, the industry has seen export markets contract and domestic markets swamped by imports. There are some notable success stories, with growers successfully competing in international markets. But the overall figures paint a disturbing picture of an industry under siege from increasing globalisation.

Is the high dollar to blame?

The vegetable industry is not alone in the Australian economy suffering the impacts of increased import penetration this financial year. A wide range of industries have cited the high value of the Australian dollar as a major reason for the loss of markets. Many businesses are restructuring to accommodate new market realities. There is no doubt that the appreciation of the Australian dollar in the wake of booming prices for key mining exports has increased the competitive pressure on the vegetable industry. But increasing import penetration has not just arrived with the strong Australian dollar. The relentless rise in imports over the last decade suggests that a major structural shift is underway within the Australian vegetable industry. It is just that this year, the pace of the rise has accelerated rapidly.

What does the import data reveal?

Table 1 reveals that the sharp increase in imports is concentrated in the processing side of the industry. Frozen vegetable imports, including

prepared frozen imports, are up a whopping 60 per cent in the eight months to end February. Processed vegetables, including canned vegetables, are up 21 per cent. Fresh vegetable imports, on the other hand, have fallen in value by 15 per cent from the record high of the previous year. This is due mainly to a fall in imports from New Zealand and a fall in the value of garlic imports from China, although garlic volumes from China have increased. At present, the value of fresh vegetable imports are relatively small outside of garlic, onions and asparagus; all vegetables not covered by the vegetable levy.

A more detailed analysis of frozen vegetable imports shows that the growth in import penetration this financial year is widespread across the full range of vegetables. Table 2 shows a breakdown of frozen vegetable

imports by value, and Table 3 a breakdown by quantity. Imports of prepared frozen potatoes (French fries and chips etc) are large and they have almost doubled. But imports are also up for other frozen vegetables. By value, frozen bean imports are up 117 per cent, frozen pea imports are up 47 per cent, frozen corn imports and mixtures of vegetables are up 27 per cent, and other frozen vegetable imports have increased 21 per cent.

Tomato products, such as canned tomatoes and tomato paste, make up the bulk of processed non-frozen imports. These categories grew strongly in the latest period, but so did the broad category of other vegetables and mixtures of vegetables, which were up 16 per cent on the previous period.

The import data reveals that growers producing for the processing side of the industry

Table 1
Vegetable Imports - Millions of Australian Dollars

Vegetable Category	Jul 10-Feb 11	Jul 11-Feb 12
Total	\$386.859	\$476.335
Frozen	\$118.681	\$190.365
Processed	\$141.467	\$170.863
Other (1)	\$74.892	\$70.942
Fresh	\$51.819	\$44.165

(1) Vegetable seeds, tuber vegetables, dried and provisionally preserved vegetables
Source of Data: Australian Bureau of Statistics/World Trade Atlas

Table 2
Frozen vegetable imports - Millions of Australian Dollars

Vegetable	Jul 10-Feb 11	Jul 11-Feb 12
Total	\$118.681	\$190.365
Prepared Potatoes (French fries and chips)	\$47.400	\$93.981
Mixtures Of Vegetables	\$21.469	\$27.281
Peas	\$13.857	\$20.435
Other Vegetables	\$12.677	\$15.390
Sweet Corn	\$8.097	\$10.317
Beans	\$4.489	\$9.783
Prepared Vegetables	\$6.252	\$7.236
Spinach	\$4.023	\$4.381
Potatoes	\$0.262	\$1.316
Leguminous Vegetables	\$0.153	\$0.245

are under enormous pressure. Vegetable processing is now a globalised industry and the continuing rationalisation of the Australian vegetable processing sector is impacting severely on these growers. Vegetable growers producing for the fresh markets may feel that there is some comfort in this data. However, any switch by growers producing for the processing sector to producing for the fresh markets threatens to increase supply and lower prices, impacting on returns to growers producing for the fresh markets where prices are already under pressure. Despite some natural protection because of distance, increasing globalisation means that any substantial price differential will open the import gates. Fresh garlic has long been the major fresh vegetable import due to a substantial price differential between Australian grown garlic and Chinese imported garlic.

Is China to blame?

In any discussion about the Australian economy, China features prominently. While China is the third largest source country for vegetable imports, the acceleration in imports this financial year has been sourced from other countries. Table 4 provides a breakdown

Table 3
Frozen Vegetable Imports - Quantity

Vegetable	Jul 10-Feb 11	Jul 11-Feb 12
Total	99,922,031 KG	173,313,688 KG
Prepared Potatoes (French fries and chips)	47,891,833 KG	103,461,285 KG
Mixtures Of Vegetables	14,488,463 KG	17,960,090 KG
Peas	11,080,845 KG	15,881,459 KG
Other Vegetables	10,836,473 KG	12,537,018 KG
Sweet Corn	5,952,111 KG	7,738,090 KG
Beans	3,946,108 KG	7,847,406 KG
Prepared Vegetables	2,344,579 KG	2,679,046 KG
Spinach	3,073,518 KG	3,438,486 KG
Potatoes	202,537 KG	1,591,374 KG
Leguminous Vegetables	105,564 KG	179,434 KG

Source of Data: Australian Bureau of Statistics/World Trade Atlas

by source country for vegetable imports. While South Africa has emerged as a new source country in the latest data, and other developing countries such as Thailand, Turkey, Peru and Mexico feature in the top twenty source countries, much of the sharp acceleration in imports this financial year has come from the so-called advanced economies, not the developing

world. Imports from New Zealand, United States, Italy, Netherlands, Belgium, Spain, Portugal and France have increased strongly. Currency factors may play a role in which country frozen or processed vegetables are sourced from, but not in the fact that they are increasingly more likely to be sourced overseas than in Australia.

Conclusion

The latest import data should give the industry cause for concern. Growers producing for the vegetable processing sector may need to adjust their business model in the light of structural changes occurring in the vegetable supply chain.

Table 4
Imports Country of Origin - Millions of Australian Dollars

Rank	Country	Jul 10-Feb 11	Jul 11-Feb 12
Top Twenty Import Sources			
1	New Zealand	79.593	105.348
2	United States	42.182	72.483
3	China	69.507	63.218
4	Italy	52.309	59.191
5	Netherlands	25.935	33.963
6	Thailand	17.368	15.335
7	Turkey	12.292	14.783
8	Belgium	8.265	12.940
9	Peru	7.454	9.494
10	Spain	5.394	8.256
11	France	5.877	7.986
12	India	8.300	7.794
13	Canada	5.423	6.292
14	Portugal	0.788	5.665
15	Germany	4.411	5.291
16	Mexico	4.116	4.981
17	South Africa	0.481	4.276
18	United Kingdom	3.904	4.157
19	Fiji	3.035	3.364
20	Korea, South	2.776	3.226

Source of Data: Australian Bureau of Statistics/World Trade Atlas

THE BOTTOM LINE

New economic data shows that:

- The vegetable industry is on track for its worst ever trade deficit.
- Growers producing for the processing side of the industry are under enormous pressure.
- Changes in the vegetable supply chain mean that growers may need to review their existing business models to adapt to a changing economic climate.

i For more information:

Ian James is Project Leader of the Vegetable Industry Developments Program's Economic Sub-Program. There is a wealth of information on the vegetable industry and more detail can be found on the AUSVEG website.

Website: www.ausveg.com.au/resources/industrystatistics.htm.

Touring Germany, the Netherlands & fantastic Fruit Logistica

An AUSVEG Grower Tour of Germany and the Netherlands has helped to shed light on international industries and better inform local practices, writes Simon Coburn.



A group of growers and members of the industry have conducted a successful and informative AUSVEG-led tour of Europe.

The centrepiece of the two-week tour was a visit to Fruit Logistica 2012. With more than 2,500 exhibitors on display representing 83 countries from around the world, Fruit Logistica is the trade show to attend. Housed at Messe Berlin, the three-day trade show attracts around 56,000 attendees and showcases everything from fresh produce to packaging innovations and displays of machinery.

One of the features of the impressive displays was a focus on the consumer. A raft of unique packaging concepts were among the presentations, while many of the exhibitors focused on visual appeal for consumers, as well as considerations of convenience.

Fruit Logistica also provided the opportunity for tour participants to view a vast array of machinery. Post-harvest machinery featured prominently within a series of exhibitions that spanned the majority of the venue's ground floor.

An extensive program of

speaker information sessions, canvassing a variety of topics from handling crisis management to the link between sustainability and productivity, added further depth to the impressive event.

The sessions offered a European perspective on some of the industry's significant issues, particularly with regard to trade situations where contamination in a food source has occurred.

No expense was spared in the battle between countries and companies to attract the eyes of the passing delegates,

with samples of the produce available, and television screens flashing ever-changing concept designs. For those who just wanted to rest their feet, there were courtyards with chairs to relax and have a coffee while representatives spruiked their wares.

The rest of the tour incorporated other locations across Germany and the Netherlands. Tour participants were treated to a visit to the local Berliner Grossmarkt, a wholesale market not unlike those found in Australia. The group was given a tour of the

facilities, which cover 330,000 square metres.

Tours were also provided through the John Deere factory, where the group witnessed a John Deere tractor rolling off the conveyor belt every three minutes, as well as an inside view of both the Bayer CropScience headquarters in Monheim and the Nunhem head office in the Netherlands. These impressive inside views

provided a new perspective on the costs and expertise involved in every step of the process for these companies.

Perhaps one of the most instructive parts of the tour came with a visit to a local farm. While the farm itself was barely in operation due to the time of year and weather conditions, the interaction between the owner and tour group provided some key insights into how the

industry operates locally and some of the challenges that need to be overcome.

The tour highlight came in the form of a visit to Koppertcress; a facility focused on the creation and production of varying flavours of cress. The unique and creative approach to not only the variety of flavours being produced, but the marketing and sales techniques employed, provided the group with highly

relevant and applicable ideas to bring back to Australia.

The tour was rounded out with visits to several research facilities, with a view to gaining an insight of the local industry, in addition to an inspection of glasshouse facilities, which are critical to the European industry to combat the often unfavourable weather conditions.



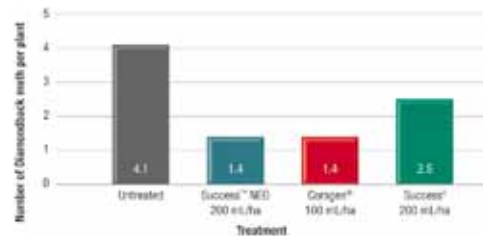
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Around the states

Victoria



There has been positive development by the Vegetable Growers Association of Victoria in 2012 following the appointment of Helena Whitman to the part-time position of Executive Manager. Helena has a great depth of industry experience and food safety knowledge, which will be of vital assistance to Victorian vegetable growers. Over the past two years, Helena has held the position of Industry Development Officer (IDO) covering the Western areas of Victoria. This position is now the responsibility of IDO Rod Hall. John Runting continues in the role of IDO East, which

provides a very experienced and knowledgeable IDO team for the Victorian vegetable industry. Helena takes responsibility for the IDO team and vegetable industry issues, working with the Victorian DPI Horticultural Industry Network (HIN) and Horticulture Australia VIDP/CIO programmes.

The Victorian Farm Safety Centre attached to Ballarat University completed a manual handling project, providing ten solutions identified as possible causes to simple workplace injuries that could occur when planting, picking or packing in the vegetable industry. This project, headed by Andrew Sullivan with a reference group including VGA Vic representatives, has held meetings and farm visits over the past nine months, and a final report is now available. Solution workshops were held during February and March at Werribee, Cranbourne and Lindenow, and our appreciation goes to EE Muir and Sons for providing meeting venues. VGA

has provided details on the website and hard copies will be distributed to Victorian vegetable growers. Contact the VGA office to register to receive your copy.

Growers welcomed the Victorian State Premier's decision to drop the previous State Government's target of cutting the greenhouse emissions by 20 per cent. This will no doubt clear the way to remove the Federal Government's carbon tax on businesses and households through electricity charges.

Relocation to a new Melbourne Market site at Epping is still frustrating vegetable growers, who continue to trade in the growers' building at Footscray Road. After nine years of consultation plus a change of State Government, there are still no costs declared for growers to plan their future business budgets in order to continue selling vegetables at Epping. Construction of buildings continues at the new site, with a reported blowout of almost three

times the original development costs. Yet it is also reported that the building provided for growers has not improved in its design for the cold chain over the past 50 years.

Fresh produce is an important industry to the health and employment of all Australians and yet there is no protection provided for the people working the land. Why is it necessary to support car manufacturing in Australia controlled by overseas operations with massive handouts of tax payer's contributions, when local fresh food businesses are struggling to compete in a supply and demand market?

Tony Imeson
VGA Victoria
Executive Officer
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Western Australia



Work has begun between vegetablesWA, DAFWA and the Department of Water, with the support of their Ministers, to scope the potential for dedicated horticulture precincts to further secure the future of our industry. Initial scoping has focussed on areas that are relatively close to markets, services, accommodation, labour and transport. Areas, in addition to Carnarvon, which have been identified as having potential

include Gingin-Dandaragan-Lancelin, Manjimup-Pemberton and Myalup.

The vegetablesWA Good Practice Project in the South West is providing growers with some really encouraging early results. The initial focus has been irrigation management and a combination of irrigating according to evaporation rate, and using drip lines has produced some excellent crops with increased uniformity. We know that health and nutrition are very important in marketing food items, which is why it forms part of the current "Fresh from WA Farms" campaign and the retail pilot undertaken last year. We also know that vegetables are healthy for us, but telling people

that is no longer enough. We now need to describe to people what nutrients they contain and why this is beneficial to their health.

Under Australian law, there are strict rules about what health benefits you can claim for food products and what evidence you must provide in order to make the claim. For example, if a certain vegetable contains Folate (good for heart health), you are not permitted to say vegetable 'X' is good for your heart health. You must instead say 'vegetable 'X' is a source of Folate. Folate is good for maintaining healthy heart function.' In addition you must be able to provide evidence that the vegetable does contain that nutrient.

As a result, vegetablesWA has begun work to develop a set of health claims based on the nutritional composition of vegetables grown in WA. However, we have discovered that there is a lot of missing information about the nutrient levels of vegetables. Future results should be of great value for the entire industry.

Jim Turley
vegetablesWA
Executive Officer
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West Perth WA 6005
Telephone: (08) 9481 0834
Email: pga-vga@vegetableswa.com.au

New South Wales



With consultation recently closing on the draft Murray Darling Basin Plan, it is worth reflecting on the role of water in the horticulture industry. NSW Farmers has concerns with the devastating impact that the cuts proposed in the 2011 draft Basin Plan will have on production and employment in the vegetable industry, particularly in the Riverina region of NSW.

NSW Farmers believes that it is essential that the Plan be based on a triple bottom-line approach, giving the effect

on communities and industry equal priority to environmental outcomes. As such, the Plan should not be focused on numbers in isolation from outcomes, and needs to consider the whole system, including the management of the lower lakes. Likewise, any flooding of rural communities caused by environmental watering is not acceptable. We also believe that the plan's outcomes are best delivered through smarter investment in infrastructure works and services, rather than crude buy back measures.

We are also concerned about the threat that increasing mining and coal seam gas development poses to clean and reliable water sources for horticulture. With the NSW Government breaking the promise it made to NSW Farmers to protect strategic agricultural land and water, we are now partnering with the community to ensure that the Government is held

accountable to this important election promise.

On water quality, NSW Farmers has provided evidence to the Management of Domestic Wastewater Inquiry, outlining our concerns of failing sewerage treatment plants on the horticulture industry; particularly the impacts of discharges from the West Camden sewerage treatment plant in 2008 on local horticulturalists.

The concern of having clean water for production is heightened, given the food safety impacts that this has with some fruits and vegetables. Food Standards Australia New Zealand is proposing to develop a Primary Production Processing Standard for horticulture, which focuses on the role of preventing contamination by water. NSW Farmers will be making a submission to the FSANZ proposal.

On other matters, NSW Farmers has continued to

lobby Federal Parliamentarians for amendments to the Horticultural Code of Conduct. We are disappointed that a Parliamentary Inquiry did not recommend the passing of Bob Katter's bill to amend the Code of Conduct. Yet it is clear that the Code needs to operate whenever farmers sell their produce and that better dispute resolution mechanisms are required. As such, we continue to engage with all sides of politics to seek a better outcome for all horticulture producers in NSW.

Peter Darley

NSW Farmers' Association
Horticulture Committee
Chairman
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Sydney, NSW 2000
Telephone: (02) 8251 1804
Fax: (02) 8251 1750

Tasmania



One of the downsides, perhaps the only downside, of living in Tasmania is that too often you hear about young people who have to move interstate for jobs, job training or further education; fragmenting the families in which they grew up.

We at the TFGA may have sown the first seeds of a program that may help to stem the ebbing tide of our young people. We unveiled an Agriculture Industry Skills Plan that aims to position our industry to provide the specialist training we need for all aspects of 21st century farming and agribusinesses.

Working with Skills Tasmania, we have devised a program to address our projected labour supply and skills shortages, on the farm and in the agricultural

businesses upon which we depend and which depend on us.

You may not have noticed it, but Tasmanian agriculture is in transition. It is having a makeover. We are younger and we are smarter and we use technology. No longer do we do it the old way because that was always good enough and it worked. Today we have to be lean, quick and efficient and we have to be smarter than our competitors.

Modern Tasmanian farmers do not try to do everything themselves - there are simply not enough hours in the day. They use specialists; they contract out; they make the best use of their own time; they make the best use of their resources; and they research before they decide on a course of action. Nothing is left to chance and, with our new era of irrigation, they even try to take the weather and the climate out of the equation.

As a result, a career in the modern agriculture sector offers a diverse range of opportunities.

The agriculture services sector provides the services that enable the production sector to operate at maximum efficiency and continually improve their

performance. Occupations in this sector are very diverse and include areas such as marketing, packaging, value added processes, scientific research, extension activities, mechanics and building, logistics and transport, and distribution.

New career paths are also opening up in working in the environment sector, too: land management and conservation; climate change; irrigation and water management; and biosecurity to name just a few.

Or you might be more interested in a wider view through areas such as industry representation and policy development; journalism and media; consulting and analysis; teaching; or a myriad of roles in government agencies.

As well as all these possibilities, there is strong demand for a full range of general business skills: business planning; financial management; human resources; OHSE; quality assurance programs; customer service; and administration.

There can now be no argument: agriculture will continue to be one of Tasmania's key economic drivers as sure as night follows

day. Other industries may rise and fall in their impact and their attraction, but producing food in one of the best climates on earth will always be needed and will always require highly skilled labour and professional advice.

Working in agriculture offers tangible results and immediate satisfaction. It can provide a perfect opportunity to see something that you've created, every day. You can contribute to improving quality of life for all Australians, through producing clean, green and fabulous food and fibre products. And you can make a real difference.

That's what our Skills Plan is designed to promote - and we'll be working with other industry groups over the coming months to deliver on this promise.

Jan Davis

Tasmanian Farmers & Graziers
Association Policy & Advocacy
Chief Executive Officer
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Fax: (03) 6331 4344

Queensland



Traineeships for Production Horticulture in Queensland at a Certificate II and III level have been officially recognised by the Australian Qualification Framework – the organisation regulating qualifications in Australia.

The former Department of Employment, Economic Development and Innovation (DEEDI), peak horticulture body Growcom and local growers associations, such as the Bowen

and Gumlu District Growers Association, worked together to have the skills and training required to work in production horticulture recognised through traineeships.

A Certificate II in Production Horticulture is now recognised as the training required for a farm hand, while a Certificate III in Production Horticulture will classify a graduate as a tradesperson.

The achievement is a result of a thorough review of the career pathways for production horticulture in Queensland and the collaborative efforts of State Government and industry representative bodies.

Recognition of traineeships provides growers with the opportunity to provide a career pathway and training for employees - two recognised

activities that attract and retain staff.

Growers should start thinking about enrolling new and existing staff into the traineeships.

By providing an atmosphere of skills development and training in their businesses, growers can build up a professional and productive workforce, assisting their bottom line.

The recognition of Production Horticulture traineeships is a fundamental step toward the provision of high quality, relevant and industry-driven training that will provide the industry with the skilled labour it needs to meet the challenges it faces.

Industry based training delivery assists growers to develop the skilled labour force they require to meet the

challenges they face today and into the future.

Traineeships attract funding from both the State and Federal Governments, which can be accessed through local Australian Apprenticeship Centres.

Growers seeking more information on traineeships are invited to contact Growcom's Training Coordinator Alana White at awhite@growcom.com.au or through the number listed below.

Alex Livingstone

Growcom
Chief Executive Officer
Floor 1, 385 St Pauls Terrace
Fortitude Valley, QLD 4006
Telephone: (07) 3620 3844
Fax: (07) 3620 3880

South Australia



Grow SA has forged a closer alliance with the Virginia Irrigators Association through a new Service Level Agreement, which came into force this month. As the region approaches the end of the BOOT (Build Own Operate

Transfer) Scheme for the Virginia Pipeline, grower and irrigator involvement in the forward planning is imperative. This partnership will add strength to the planning processes and ensure that growers' rights are protected into the future.

Grow SA is pleased to announce its new joint venture labour hire business "GrowStaff". This creates a new business unit for Grow SA and offers across-industry employee placements to the whole agrifood sector. Capitalising on Grow SA's FarmCard system of industry based induction, OH&S, visa verification and

portable training records, GrowStaff provides employers across the sector with a viable staffing solution.

The inaugural "Grow SA Innovators Lunch" is to be held in May, where growers will hear about new and innovative products and services available to horticulture. The lunch will include information on the latest international technology on plant nutrition, and simple and cost effective ways to lock in your electricity bills. Grow SA will also announce the industry's new legal partner, who will present an update on the new OH&S legislation and its potential impact on all growers.

Grow SA will update information on FarmCard, which is gathering momentum across South Australia as an industry based induction program and mode for fully portable compliance and training records, and introduce Grow SA's new GrowStaff labour hire joint venture.

Mike Redmond

Chief Executive Officer
Grow SA Ltd
Virginia SA 5120
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Email: mike.redmond@growsa.com.au

Calendar of events

May 2012

22 - 31 May

World Potato Congress

Edinburgh, Scotland

For more information: Telephone: (03) 9822 0388

Email: info@ausveg.com.au

August 2012

3 August

Annual VGA Vegetable Growers Golf Day

Time: 9.00am Venue: Lang Lang Golf Club, South Gippsland Highway, Nyora.

For more information: Telephone: (03) 9687 4707

Email: contact@vgavic.org.au

October 2012

12 October

VGA Vic Annual General Meeting

Time: 4.00pm Venue: Crowne Plaza Hotel, Spencer Street, Melbourne.

For more information: Telephone: (03) 9687 4707

Email: contact@vgavic.org.au

October 2012

17 - 19 October

Eurofruit Congress Southern Hemisphere Conference

NH Lord Charles Hotel, Cape Town, South Africa

For more information: AUSVEG

Telephone: (03) 9822 0388

Email: convention@ausveg.com.au

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