May/June 2006

RRP: \$6.00 + GST

ISSN: 1832-3340

volume 1.6

vegetables australia



8 How Tailor Made Farms are making the most of our precious water

24 News from the Australian Vegetable Industry Conference

42 Exotic tomato disease hits South Eastern Queensland



www.nufarm.com.au



# vegetables australia



#### **AUSVEG Ltd Chairman**

Michael Badcock

#### Editor

Youna Angevin-Castro

Tel: (03) 9544 8098 Fax: (03) 9558 6199 Mobile: 0407 242 788

Email: editor@ausveg.com.au

#### **Editorial Committee**

Anthony Brandsema

Tasmanian vegetable grower

John Mundy

South Australian vegetable grower

Figaro Natoli

Western Australian vegetable grower

Glenn Abbot

Queensland vegetable grower

Thérèse Schreurs Victorian vegetable grower

David Chung

New South Wales vegetable grower

Alison Anderson News South Wales

Industry Development Officer

Lisa Maguire

Communications Manager, AUSVEG

#### Advertising

Max Hyde

Hyde Media Pty Ltd

Tel: (03) 9870 4161

Email: max@hydemedia.com.au

#### Contributors

Simon Adams, Joe Castro, Graham Gosper, Susan Hudson, David Jarwood, Jodie Powell, Mark Seaton, Carolyn Walker, Stephen Zelez, Andrew Wuttke.

#### Design

Flying Dog Designs www.fddesigns.com.au

#### Printer

Erwins Printing Pty Ltd

#### Distribution

Dynamic Direct

READERSHIP: 9500

Thank you to all growers and researchers for your participation in the interviews. Published by:





All research and development projects are facilitated by HAL in partnership with AUSVEG and are funded by the National Vegetable Levy and/or voluntary contributions from industry. The Australian Government provides matched funding for all HAL's R&D activities.

For more information visit www.ausveg.com.au

Vegetables Australia is produced by AUSVEG Ltd and is free for all National Vegetable Levy payers.

#### Industry Development Officers (IDOs)

New South Wales

Alison Anderson Phone: 0409 383 003

Queensland

Jack Milbank Phone: 0408 135 042

South Australia

Craig Feutrill Phone: 0418 831 089

Tasmania

Stephen Welsh Phone: 0400 006 095

Victoria

Patrick Ulloa Phone: 0429 990 553

Western Australia

David Ellement Phone: 0408 941 318

#### Disclaimer

AUSVEG Ltd makes this magazine available on the understanding that users exercise their own skill and care with respect to its use. Before relying on or altering any business practices users should carefully evaluate the accuracy, completeness and relevance of the information for their purpose and should obtain appropriate professional advice relevant to their particular circumstances. This magazine contains views and recommendations that do not necessarily reflect those views of AUSVEG Ltd.

Special care should be taken with agriculture chemicals which may have been used experimentally but are not yet registered for commercial usage. Clarification should be sought from the researchers or the chemical manufacturers.

#### © Copyright AUSVEG Ltd 2006

This work is copyright. Apart from any use as permitted under the Copyright Act 1968, no part may be reproduced by any process without prior permission from AUSVEG Ltd. Requests and inquiries concerning reproduction and rights should be addressed to The Editor, Vegetables Australia, PO Box 563, Mulgrave VIC 3170.

ISSN 1832-3340

AUSVEG Ltd PO Box 563 Mulgrave VIC 3170





### Contents

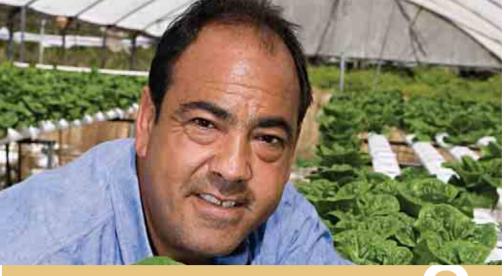


- 6 Chairman's Message Michael Badcock
- 6 Editor's Message
- 8 Tailor Made Farms: Making the most of our precious water
- 12 Q&A: Graham Peachy, CEO FSANZ
- 14 Making succession planning a family affair
- 17 Vegetables Australia receives welcome support from readers

- 18 Sweeter future planned for corn exports
- 20 Bean there, done that



- 22 Getting to the root of things: disease control in seeds and seedlings
- 24 Australian Vegetable Conference: Vision 2025 and The Marketing Decade
- 26 Australian Vegetable Conference: Time for a sea change
- Australian Vegetable
  Conference: Changing
  for a future





Tailor Made Farms: Making the most of our precious water

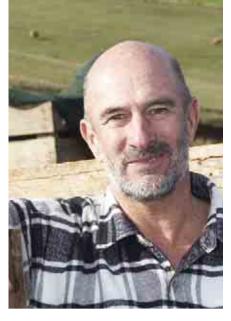
Dr Pauline Mooney: Driving SARDI into the future



- 30 Australian Vegetable Conference: Sponsors
- 36 Boosting fertiliser efficiency for transplanted vegetables
- 38 Confidor the final solution?
- 40 Sadly, it's not enough just to produce the best vegetable...
- 41 Leaf diseases in the spotlight
- 42 Exotic tomato disease hits South Eastern Queensland
- 43 Dr Pauline Mooney: Driving SARDI into the future



- 44 Ute Guide to promote healthy Australian soils
- 45 Economic Outlook
- 46 News –
  AUSVEG responds to
  FSANZ feasibility study
  on CoOL
- 47 News Private labelling confusion
- 48 News
- 51 Around the States
- 54 Events Calendar



## A word from the AUSVEG Ltd Chairman

Coming together for the first ever cross-industry Australian Vegetable Conference is a momentous occasion for our industry.

Working together, establishing stronger business relationships through our supply chain, investing in innovation and smarter business practice will be the impetus towards building a far more cohesive and resilient Australian industry. The conference has culminated in a range of practices designed to move your business into a new era.

It's with great pleasure that I can speak of the inaugural cross-industry 2006 Australian Vegetable Conference and I would like to thank everyone who has made the effort to attend this year's conference. I would also like to thank the sponsors, AUSVEG staff, Conference Organising Committee and all the speakers, who have contributed to a truly memorable event.

Our partnership with the Australian Government through the Industry Partnership Project (IPP) identified a number of key areas that we as an industry need to improve in. These key areas will be driven by a whole of industry strategic plan for vegetables, to be unveiled to industry at the Conference Dinner.

I, for one, am excited about our future, a future with an industry capacity to allow those who embrace innovation and change, to become the world's best vegetable producers.

Modeoch

Michael Badcock
AUSVEG Ltd Chairman





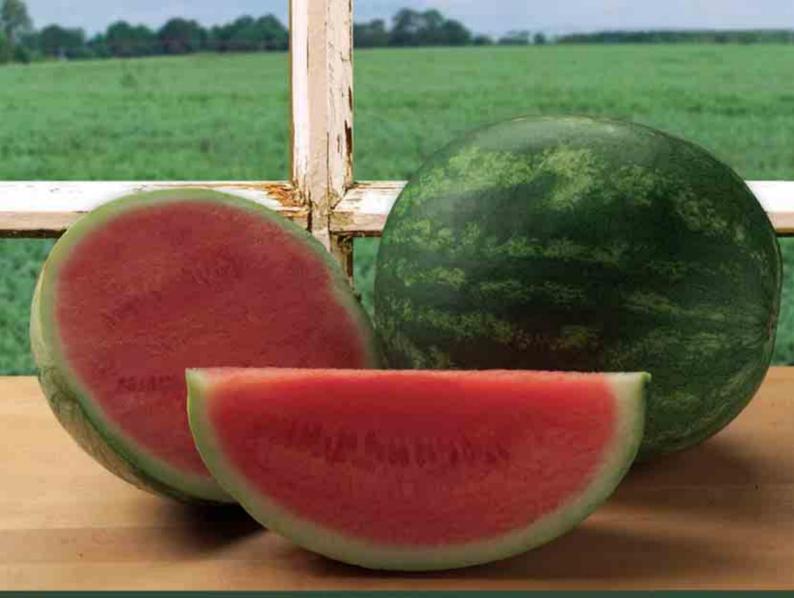
Most of you will have noticed something different about this issue of Vegetables Australia – and that's the idea. The vegetable industry has embarked upon an exciting journey, commencing with the Australian Vegetable Industry Conference, and we felt that this particular issue of Vegetables Australia should reflect this time of change.

In this issue we have included some valuable insights from guest speakers at the Conference. Stephen Strachan, CEO of the Winemaker's Federation of Australia shares some thoughts on how his industry approached change when it unveiled its strategic plan ten years ago. We also speak to Richard Bovill, the man behind the successful Fair Dinkum Foods campaign last year, and the current chair of the Australian Vegetable Industry Development Group, which is responsible for overseeing

the foundation projects forming part of the Industry Partnership Program (IPP).

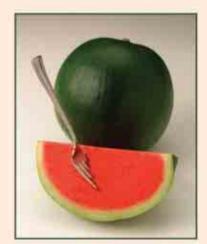
For those of you who have made it to Brisbane for the conference, I hope you will benefit greatly from this landmark event. But for those who were unable to make the trip, do not despair. Vegetables Australia will be bringing you all the news and outcomes of the conference in coming issues of the magazine.

Youna Angevin-Castro
Editor, Vegetables Australia



## FIND YOUR WINDOW OF OPPORTUNITY.

Innovative New Products from Seminis.







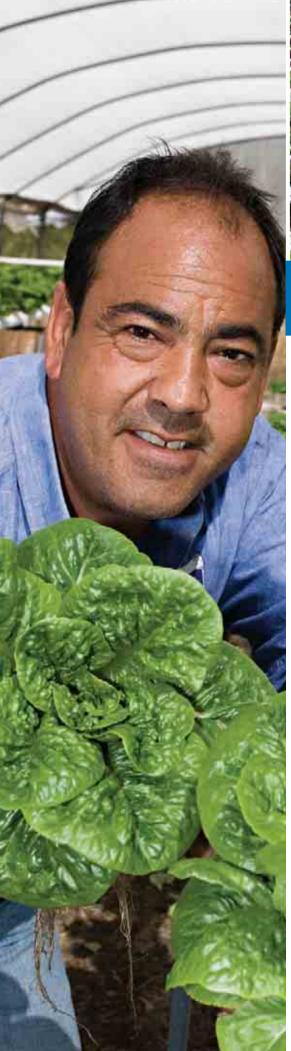
Coloured Carrots



Jammers

Come and talk to us at the Australian Vegetable Industry Conference about what we can offer you or visit our web site at <a href="https://www.seminis.com">www.seminis.com</a> and click on "Seminis Innovations".

Seminis.







## **Making the most of our**

David Jarwood speaks to Nick Arena of Tailor Made Farms, an innovative grower who is successfully combining fish farming and a thriving hydroponics business.

With water rapidly becoming Australia's most valuable natural resource, a New South Wales business is actively working to make the most of the precious liquid.

Just 20 megalitres a year is all the company needs to bring in over \$660,000 each year.

But what is even more noteworthy is the combination of produce – hydroponic vegetables combined with barramundi.

Tailor Made Farms, in Port Stephens near Newcastle, yields 37 tonnes of barramundi a year and also produces about 100,000 hydroponic lettuces a year, re-using around half of its wastewater.

Nick incorporated into his plan a hydroponic set up that uses around half of the wastewater to feed hydroponic lettuces and the other half irrigates a local market garden.

From just 0.1 hectare of pond space, the farm uses a locally invented waterwise modular system to cater for the lucrative live fish trade to Sydney's Asian restaurants and fish shop aquariums.

The system, which has drastically cut down on waste and impact on the environment, is now being marketed as a cost effective add-on to farmers already using water to grow crops by either traditional open field methods, or by the newer approach in controlled hydroponic hothouses.

Owner and co-originator of the farm Nick Arena believes waterwise fish farms should become a feature of Australia's growing aquaculture industries and hold the key to the future of horticulture in Australia.

Nick, a former builder who left his Sydneybased business to build and run the experimental facility which is now producing up to 800kg of fish a week, said given the increasing problems of a reliable water supply, hydroponic set-ups were the future of horticulture in Australia.

"There is less water used and less environmental impact compared to conventional cropping," he said.

"There is no over-watering of plants and no adding to salinity problems. The Department of Agriculture sees hydroponic systems as being more economically viable and having less impact on the environment."

Before getting into aquaculture nine years ago Nick was a builder. He came up with the idea of the fish farm during a discussion about the state of the world's fish supplies.

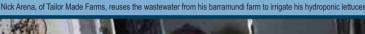
"Looking at the state of world's oceans it is obvious that the only way we are going to enjoy fish in the future is if we grow them," he said

But fish farms have a problem of where to dispose of wastewater with high ammonia levels.

All fish farms look to refresh their water supply with fresh water. Clean water is brought in and the old wastewater is pumped out, usually into nearby rivers.



## precious water





This pollutes the rivers, and causes an excess of nutrients in the soil.

But with Nick's fish farm all the wastewater is put to good use.

Nick incorporated into his plan a hydroponic set up that uses around half of the wastewater to feed hydroponic lettuces and the other half irrigates a local vegetable farm. Continued on next page

# Get 'em to Bug off with Orthene® **Xtra**



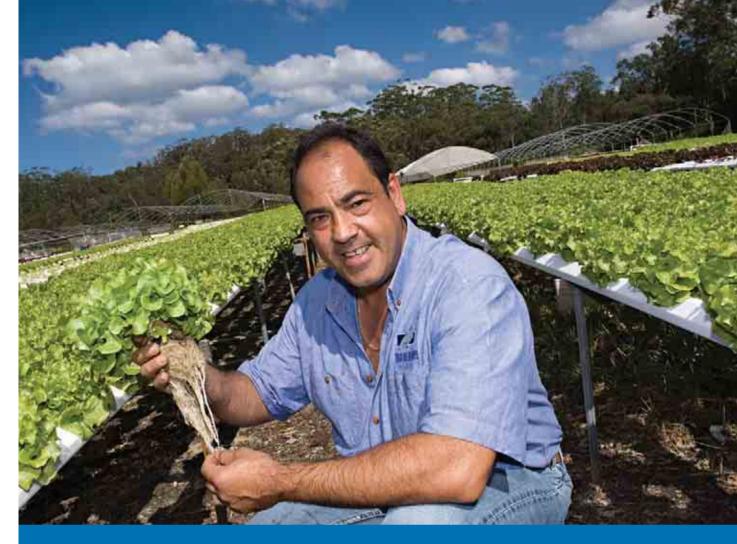
Orthene® Xtra insecticide helps get rid of moths, cataperpillers aphids, thrips and many other bugs in Banana and Vegetable crops as well as in Nursary situations.

Now available in individual 1kg easy to use packs.

® Orthene is a registered Trademark

Arysta LifeSciences North America Corporation A.B.N. 37 832 141 368





### Making the most of our precious water (continued)

"The concept received the support of the Environmental Protection Agency (EPA), the councils and we became the first licensed barramundi farm on the eastern seaboard," Nick said.

"The future is about having control of your growing environment and by linking fish production with a controlled indoor hydro set-up production, quality and volumes become more predictable, and the need for pesticides greatly reduced," he said.

"Control advantages for the fish include a reduction in chemical use, being able to manage many issues through the simple addition of salt, varying the water temperature or by controlling water quality, the use of antibiotics has also been significantly reduced. The water used for the hydroponics also has the added advantage of low levels of nutrient content within the wastewater, reducing the amount of fertiliser needed."

While the company is making good money for its barramundi in the Sydney market, it believes its greatest potential is in selling its waterwise modular technology.

Already they've designed and built a farm in Melbourne and are negotiating with interested parties from across the globe.

They could start off with a small hydroponics system, and operate it side by side with what they are already doing and very quickly they would see the benefits of the hydroponic system.

For the past eight years Nick and his team have built the fish farm and hydroponics into a very profitable business. Now he has developed the concept further and is offering the design and set-up to others looking to move into this profitable area.

The cost of setting up a fish farm is about \$1.3 million, which would provide everything needed to get underway from wages to a shed, lighting, tanks, concrete, food for the fish and the fingerlings. Within a year, the system, if marketed well, has the potential to be bringing in an annual income of \$600,000.

An indoor fish farm also means no loss of stock through predators such as birds or eels.

"You really don't need to be a rocket scientist to do this sort of stuff. You really just have to understand the basic parameters and how to maintain and keep those parameters at the right levels," Nick said.

Setting up the hydroponic system alongside the fish farm system costs about \$90,000 – and this can generate an additional \$70-80,000 annually.

Nick believes many conventional farmers were needlessly dubious about the value of a hydroponic system.

He said they could start off with a small hydroponics system and operate it side by side with what they are already doing and very quickly they would see the benefits of the hydroponic system.

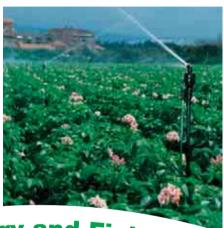
"I believe there is a lot of opportunity with this industry," he said. "I liken it to the chicken industry – but that has got 70-80 years head start on where we are at."

# MALANDAN.

## AUSTRALIA **IRRISTANDS SYSTEMS**







#### Available through your Local Dealer

- Low precipitation rate (2.0 - 4.0 mm/h)
- Flow rate 360LPH 940LPH
- Preventing soil compaction
- Low operation pressure (2.0 4.0 bar)
- Short irrigation intervals (pulse irrigation)
- High uniformity of water and fertilizer
- Flexibility in design and management
- Optional for flow regulated and non



Available as a Complete System including Aussie Connector and poly pipe

For a full brochure and enquiries email marketing@naandan.com.au

Mark Mark AUSTRALIA

214-216 Hammond Rd **Dandenong VIC 3175** Tel: 03 9767 1222 Fax: 03 9767 1223

Web: www.naandan.com



Vegetables Australia goes to Canberra to speak with Graham Peachey, CEO of Food Standards Australia New Zealand (FSANZ) about what they do, and how they work with the Australian vegetable industry.

## What is the role of Food Standards Australia New Zealand (FSANZ)?

FSANZ is an independent government agency that develops regulations for the sale of food in Australia and New Zealand. These regulations appear as food standards in the Australia New Zealand Food Standard Code. Our main objectives are to protect consumers from unsafe food and to ensure that consumers are adequately informed about the food they purchase. In setting food standards, we only apply the minimum regulation necessary to achieve these objectives. Our regulatory decisions are based on the best available scientific evidence.

## How does FSANZ work with the Australia and New Zealand Food Regulation Ministerial Council?

Australia and New Zealand have a joint food regulatory system. We set food standards within guidelines provided by the ministerial council, which has representatives from State and Territory governments and from the Australian and New Zealand governments. The ministerial council can request a review of proposed changes to the Food Standards Code. We also work in partnership with regulatory authorities in all these jurisdictions – in health and agriculture portfolios – who are responsible for enforcing the standards.

#### Who are your major stakeholders?

Our main stakeholders are consumers, the food industry and our government partners in the food regulatory system. We also value greatly the contribution of public health professionals and Non Government Organisations working in the area.

#### How does FSANZ reconcile the competing demands and needs of different stakeholders and industries, which may disagree on particular issues, while still looking after the needs of the public?

It is true that FSANZ often receives conflicting advice from stakeholders. However, there is no dilemma. The needs of the public in matters of food safety come first. We inform debate by placing all information at our disposal, including applications from industry to change the Code, on our website and have opportunities for stakeholder consultation built into our standard-setting process. For changes that may affect an entire industry, we establish a Standard Development Committee, with industry members, to advise us. And, if we disagree with a view expressed by a stakeholder, we publicly give reasons for our position. This position will be supported by scientific and other evidence, such as cost-benefit studies.

# What are the limitations of implementing good policy when you are responsible for food standards across two very different countries, with two very different governments?

Australia and New Zealand have had a joint food regulatory system for ten years, which is probably unique in the world. Directions are set by the ministerial council, and it is at this level that any differences in approach are ironed out. Nevertheless, the treaty that governs this arrangement has an opt-out clause for New Zealand, and some areas are not included in the arrangements, eg maximum residue limits.

#### Do you believe that Country of Origin Labelling (CoOL) is an issue of public health?

Country of origin labelling is not a food safety issue, as both imported and locally produced food have to comply with the same food safety rules in the Food Standards Code. Country of origin labelling is about supplying information to consumers. Unpackaged foods have always been required to state the country of origin of the product and can also use the 'Made in...' and 'Product of...' statements linked to definitions made by the ACCC. The new requirements, which come into effect on 8 June 2006, extend these requirements to unpackaged fruit, vegetables and seafood and, later this year, to unpackaged pork products.



### In your opinion, whose role is it to police CoOL?

States and territories are responsible for enforcing the Food Standards Code. They can take action at this level or through action by environmental health officers in local government. AQIS enforces the Code for imported food and will refuse entry to foods that do not comply with labelling requirements of the Code. FSANZ coordinates a national recall system for food products deemed to be unsafe.

# When it comes to implementing policy, how much consideration is given to helping Australian industries remain competitive? At what cost?

In developing food standards, FSANZ is required by law to have regard to the competitiveness of Australia's food industries. This is why we attempt to place the minimum impost necessary on industry to maintain a safe and informed food supply.

Our assessments include impact statements, which include the results of cost-benefit studies.

## What opportunities do you envisage for FSANZ to work with the vegetable industry in the future?

There are two main areas where we can collaborate with the vegetable industry. The first is on the low-level chemical residues in vegetable products. We are currently re-examining our approach to these residues and would welcome advice from the industry. The second concerns the future development of national food safety standards for the horticulture industry as a whole. We are in the process of developing such standards in partnership with the primary industries, to replace state regulations and industry codes of practice with single, national requirements. We will form a Standard Development Committee to advise us on this work when it begins, and I invite representatives

from the vegetable industry to apply for membership of this committee.

## Do you have anything else you would like Australian vegetable growers to know about the work you do?

It is important for industry to understand that the main purpose of the Food Standards Code is to protect consumers from unsafe food. The Code does not regulate for quality of product. This is seen as a matter for the marketplace. And, the Code is owned by all Australians and New Zealanders, who can apply at any time, either as individuals or as organisations, to change the provisions within it.

Standard setting is an objective, evidence-based process, operating within a well-defined legislative framework. We think that we are part of one of the most successful food regulatory systems in the world. I encourage all vegetable growers to contribute to the process to make it better.



# Making succession planning a



## family affair

The agricultural life can be a hard one, and when the shine has worn off early morning starts and long days in the field, many growers' thoughts turn to retirement.

Planning for retirement – whether it be a permanent arrangement, or just a temporary break from farming – can be a complex process that requires careful planning. And one of the biggest issues facing many growers as they plan to hang up their work boots is "What will happen to the farm when I'm gone?"

Succession planning can be a stressful time for families if not approached in a sensible manner. Unrealistic expectations, financial mismanagement and misunderstandings can tear through the closest of families. Unexpected deaths or injuries can further complicate matters if issues of succession are not carefully planned and articulated long before the time comes to hand over the farm.

Mal Dalton, Agribusiness Manager with the National Australia Bank, believes that one of the most important things that families can do in preparation for succession planning is to sit together with the entire family to discuss plans, and iron out any confusions or uncertainties.

"The secret to a successful succession plan is simple – basically, it's just about getting the family together, whether informally or with a financial professional, to discuss matters and make sure everyone is satisfied with the outcome," Mal said.

Based in south eastern Victoria, Mal works closely with his clients to plan for changes in their finances, business and lifestyle. Often this means assisting negotiations between parents and children for the purchase of agricultural land and the associated business.

"Succession planning is often about managing expectations," he said. "Parents may have to ask a number of questions before the issue of retirement can reasonably be considered.

"In retrospect, one of the best things I did was to speak to my father early on, long before he decided to retire."

"Parents may need to ask 'Do my children want to take on the farm after I'm gone?' If the answer to this question is 'yes', then there are a range of other considerations, such as how to manage expectations amongst siblings, who is going to run operations, and who is going to step aside.

"In a lot of cases, children take on a lot of debt in order to acquire the family farm from their parents, and obviously they want to maximise the viability of the business, while being aware of the retirement needs of their parents."

Trevor Kerton of Kerton Farms in Bairnsdale worked closely with Mal two years ago when he planned to purchase the family's

vegetable growing business from his father.

"I am the fourth generation of farmers in my family," said Trevor, "and from a young age I knew I wanted to work on the land. Therefore, I was very keen to take over the business from Dad when he decided he'd had enough."

Kerton Farms hasn't always grown vegetables – in fact, the 320 acre property started out as a dairy farm, before moving into beef and mixed livestock farming. Then, in the early seventies, Trevor's father Norm decided to switch to growing beans and broccoli. For many years, the Kerton family business was one of the biggest suppliers of frozen vegetables to the Edgells processing plant in Bairnsdale. Following the closure of the plant, they diversified into asparagus and Chinese cabbage for a number of years, before switching to baby leaf during the asparagus downturn.

After spending some time working on his own property adjoining his father's farm, approached Norm about the possibility of taking over the family business.

"I approached Dad at least twelve months prior to the transaction taking place. This gave us plenty of time to discuss some of the issues surrounding the exchange, and get the necessary advice from professionals to make the changeover a success," Trevor said.

The long lead time also allowed Trevor to acquire new machinery and develop a business plan in conjunction with his

Continued on next page

# That's Confidor confidence.







# Making succession planning a family affair (continued)

accountant. It also gave the opportunity to redefine Norm's role in the business once he had taken over.

Trevor's advice to other growers regarding succession planning is simple, "Sit down and talk about it."

Despite his continued involvement, Trevor acknowledges that his father was always respectful of his new role in guiding the business - a task which can sometimes be difficult for the retiring party. For Trevor, this has sometimes meant making some difficult decisions, such as choosing to cease production of asparagus – a crop in which Norm had invested considerable time and effort, and which had provided financial stability for many years – when the market took a downturn. Kerton Farms now concentrates on supplying baby leaf products to a range of processors, wholesale markets and restaurants, as well as green beans and Chinese cabbage.

Trevor's advice to other growers regarding succession planning is simple.

"Sit down and talk about it, and plan it really well. Both parties do need to be happy about it," said Trevor.

"In retrospect, one of the best things I did was to speak to my father early on, long before he decided to retire."

With a family of his own, Trevor is hoping that one day, one of his own children will choose to follow in his footsteps, and become the fifth generation to run Kerton Farms.

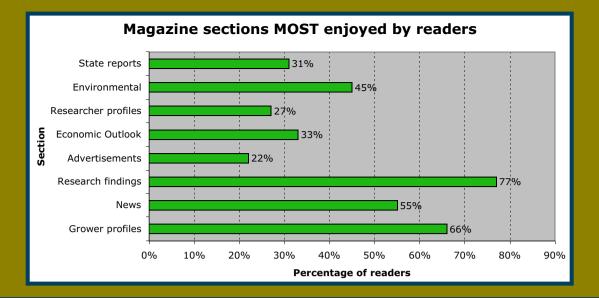
With the help of his bank and his accountant, Trevor was able to set up his business into the flourishing enterprise it is today, and has plans to expand the farm's capacity through capital investment, and looks at possibly expanding in the future.

"Both the NAB and my accountant, have played a very supportive role in my business decisions, particularly with regards to establishing the right business structures. We get regular visits from them, and we know that we can pick up the phone at any time for help."

# Tips for succession planning

- Sit down as a family, before making decisions, to discuss the needs and expectations of all parties.
- Seek professional advice throughout the process to help streamline any legal complications. Your bank manager or accountant should be able to help you develop a financial business plan which will make the changeover as painless as possible.
- Try to plan ahead, where possible, for unusual circumstances such as unexpected injuries or deaths. These events may complicate succession, so a contingency plan may be useful.
- While business dealings with family can provide many benefits, successors should keep a clear head, and remember that this is also a business transaction. This includes assessing the purchase for financial viability, as well being fully aware of any debts or liabilities associated with the transaction.
- Discuss the role each party will play after succession has been completed.
   Will the other party continue to be involved in the business? If so, to what extent? If these issues are discussed fully beforehand, there is a reduced risk of misunderstandings later on.
- Taking over the family business can be an extremely rewarding event, so make sure to enjoy the process – as a family!





### Vegetables Australia receives welcome support from readers

A recent readership survey distributed with the January issue of Vegetables Australia was an opportunity for growers to express their views, and shape the future of the publication.

Over 7000 surveys were distributed to readers around the country, and the response was pleasantly surprising. Not only was there overwhelming support for this new industry communications initiative, but many readers indicated their overall satisfaction with the direction the magazine has taken over the last ten months.

Funded partially through the National Vegetable Levy, the magazine plays an integral role in keeping growers informed of how their levy monies are spent, as well as providing current information on news and events affecting the growing community.

With growers represented across every state and demographic, the results of the survey showed some interesting results. These include:

- An average of 2.4 people read each copy of Vegetables Australia magazine
- 73 per cent of readers keep their copy of Vegetables Australia magazine, while only 10 per cent throw it out after they have finished reading
- 75 per cent of readers spend between more than 30 minutes reading their copy of the magazine

 Top three favourite magazine features are: R&D findings (77%), grower profiles (66%) and news stories (55%)

#### Prize winners announced

The prize winners of the recent readership survey competition have been drawn.

Sam Azzarelli of S&S Azzarelli in Goy Goy, NSW is the winner of a brand new Apple iPod, valued at \$449.

The \$300 Harvey Norman gift voucher goes to **John Casten** of Matchbox Acres in Deepwater, Queensland.

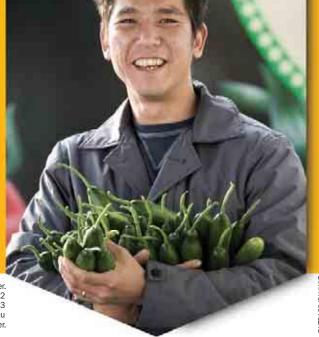
Thank you to everyone who participated in the survey.

# That's Confidor confidence.





Confidor\* is a registered trademark of Bayer.
Bayer CropScience Pty Ltd, ABN 87 000 226 022
391–393 Tooronga Road East Hawthorn, Vic 3123
Ph (03) 9248 6888 www.bayercropscience.com.au
Always read and adhere to label directions on the product container.





Australian sweetcorn growers are being urged to take part in an innovative new trial to develop alternative fumigation treatments – particularly for export markets.

Sweetcorn growers are invited to become involved in an innovative trial to test a new alternative to methyl bromide fumigation.

Dr Francis De Lima, Western Australia's Department of Agriculture Manager, IPM and Market Access, has welcomed growers and exporters keen to test the treatment over the next few months and during the next season.

"We are aiming to boost good quality exports by developing alternatives to methyl bromide for fumigation of sweetcorn as it arrives from the farm and before it is cooled down," Francis said.

"Some alternative fumigants tested were phosphine, ethyl formate, and propylene oxide. We needed to test to see if these kill a number of insect species found in exported sweetcorn, without damaging the produce.

"We have undertaken simulated export trials in a refrigerated container at 15°C using a commercial preparation - 16.8 per cent ethyl formate in carbon dioxide - supplied by BOC Gases. In laboratory trials at 10°C, treatments were found to be completely effective against major insect species tested, including helicoverpa, thrips, mites, aphids, beetles, and weevils, with no phytotoxicity to sweetcorn.

"The product was approved for use (as Vapormate®) in horticultural produce in November 2005, which means it can be legally used in the season beginning December 2005.

"There has been no loss of quality of sweetcorn and there are no residues of ethyl formate in the sweetcorn above background levels. Ethyl formate is a naturally occurring chemical in many vegetables, especially in cruciferous crops, and is used in the soft drink and confectionary industry," Francis said.

The sweetcorn industry in Australia is relatively small, valued at \$34.5 million annually, but has the potential to become a strong export-oriented industry. Small quantities of sweetcorn are currently exported to Japan and achieve good prices, but there are problems when live insects are found in shipments.

"The Japanese quarantine authorities often fumigated using methyl bromide, which affected the quality of the product," Francis said.

The pests found on intercepted produce include aphids, thrips, mites, moths (heliothis eggs and young larvae) and beetles, which are commonly found in the field as the sweet corn is ripening.

Although an integrated pest management (IPM) program significantly reduces field pests, effective postharvest disinfestation treatment of produce is essential to satisfy the zero tolerance of live insects required by overseas quarantine authorities.

Fumigation with methyl bromide is currently used in quarantine treatment, but causes the cob's green sheath covers to brown. Methyl bromide can also induce 'off flavours' in stored corn – not to mention that is very damaging to the ozone layer and will be banned by international agreement in 2005 in most developed countries.

Large growers and exporters in Queensland and Western Australia are keen to use a new treatment, as exports will be economically viable if the exchange rate is favourable (AUD\$0.70 to USD\$1).

The new treatment is undergoing further refinements in terms of speed of fumigant delivery, exposure period and venting periods. Another aim is to reduce treatment time to four hours from field to final holding temperature, while methods for measuring gas concentrations in the workplace are being refined.

"We are preparing a manual for the Australian Quarantine Inspection Service (AQIS) on treatment doses, including insect species and exposure times and temperatures. Formal documentation will be finalised after joint commercial export trials in the November 2005 to March 2006 period, and acceptance of the protocols by all parties, including AQIS, WorkSafe, Exporters, and the product supplier BOC Gases," Francis said.

#### The bottom line:

- A range of fumigants are being trialled as an alternative to methyl bromide for use on sweetcorn.
- Successful trials will have huge benefits for the export market.



For more information: Visit www.ausveg.com.au/levy-payers/login.cfm Project number: VG01014 Keywords: Sweetcorn, disinfestation.





### TAKE THIS CHECKLIST...

#### ARE THE NOZZLES YOU'RE BUYING ...

- 1. Backed by over 60 years of experience?
- 2. Produced by the world's largest spray component manufacturer?
- 3. Compliant with the toughest quality standards in the world?
- 4. Backed by the world leaders in spray application innovation?
- 5. Supported by a local sales and technical office?
- 6. Available nation-wide from all quality spray equipment suppliers?
- 7. Guaranteed to perform the way they should?
- 8. Colour coded for ease of selection?
- 9. Competitively priced?
- 10. Recommended by most crop protection companies, agronomists and sprayer manufacturers?

If your reseller can't answer yes to all of the above questions, then you'd better buy TeoJet.

Investing in Tee.Jet nozzles is an investment in the sustainability of your operation, and ensures that you'll be farming tomorrow.













PO Box 7138, Geelong West VIC 3218 Email: teejetoz@teejet.com Web: www.teejet.com www.mid-tech.com Ph: +61 3 52233020 Fax: +61 3 52233015

INVEST IN TOMORROW. INVEST IN TEEJET.



Queensland growers lead Australia's green bean industry, producing crops worth more than \$60 million annually, yet, as Jodie Powell discovered, they are also plagued by more pests than anywhere else in the country.

With Australia's green bean industry worth cutting the cost to growers and vastly more than \$60 million, growers nationwide are keen to find a better solution to pests that strip millions of dollars in profits from plants in the field.

A four-year project spearheaded by researchers at the Queensland Department of Primary Industries and Fisheries based at Gatton, west of Brisbane, is yielding good results in the search for new methods.

Among the findings is promising research that shows in-soil chemical applications can dramatically reduce the occurrence of three major pests that destroy green bean crops each season.

"We particularly wanted to find out about beneficial insects. because they're the guys that work 24 hours a day as free labour which help to manage other insect pests."

Project leader and entomologist John Duff said the pests cost growers hundreds of thousands of dollars each year in unsaleable crops.

Growers have traditionally relied on insecticides to control persistent seasonal pests such as heliothis and other caterpillar pests, as well as the silverleaf whitefly.

But John said his team had found a combination of insecticides that could reduce the number of applications needed throughout the growing season - potentially improving yields.

When John's project began just over three vears ago, the aim was to find alternative ways of managing insect pests.

"Once heliothis gets into the bean, you can't sell it," John said.

The team began with a series of plantings without chemicals to find the full range of insects and pests attracted to bean plants.

"We particularly wanted to find out about beneficial insects, because they're the guys that work 24 hours a day as free labour which help to manage other insect pests.

"With the beneficial insects, we looked at their use in other cropping situations because integrated pest management is being looked at in a whole range of crops, and we want to try to encourage growers to look for those insects."

Most of Queensland's green beans are grown in the state's south east and in the north around the Bowen and Burdekin area, with smaller growing areas around Bundaberg and Gympie.

It was at Gympie that a field trial demonstrated the effectiveness of in-soil pesticide application at the time of sowing, careful insect pest monitoring and timing of appropriate insecticides.

In October and November last year, John and his team compared their methods of planting and pest control with those of a local grower.

The grower produced his crops using more traditional methods, while John's

team took an alternative approach based on their research.

"We put chemicals on at the time of planting and one insecticide application four weeks later for heliothis control, whereas the grower put five applications of insecticides. but no in-soil applications," John said.

"We found in-soil pesticides don't only control silverleaf whitefly, but they also control bean fly and appear to manage the vegetable leaf hopper, or jassids."

More than 30 growers from the region attended a field day at which the team explained its findings and showed the two crops for comparison.

"The growers couldn't see any difference between [the quality of] the crops.

"We did the harvest on our trial and on his [the local grower's] block and there was very little difference between the results as to [pest] damage and yield.

"They were very impressed with the fact that you can reduce your insecticides."

As a result of the success in Gympie, John is now looking at further trials near the department's research station at Gatton.

The team is also looking at the use of a product called Magnet, which is an attractant laced with an insecticide and applied sporadically throughout the crop, and John said the results from other research looked good.

"We're trying to reduce the number of sprays a grower might need to put on."

As part of the project, a series of farm notes and fact sheets will be made available to growers.





**Above**: L-R Craig Mellor, Goomboorian; John Duff, DPI&F Entomologist; Scott Tramacchi, Kia Ora, in front of Best Management Options experimental block of green beans near Gympie.

**Below**: Martin Wilson points out the Confidor application jet retro fitted to his bean planter.





#### The bottom line:

- Researchers have trialled in-soil chemical applications for controlling a range of pests in green beans.
- These new methods may reduce the need for heavy insecticide use.

i

For more information: Visit www.ausveg.com.au/levy-payers/login.cfm Project number: VG02030 Keywords: Green beans

### The main pests

The insidious heliothis moth tops the list of green bean crop pests in many regions.

The moth lays its eggs on bean plants and when they hatch, caterpillars chew their way though flowers and developing pods, in some cases worming their way inside the pods themselves.

Queensland entomologist John Duff said the heliothis caterpillars could be very difficult to control because they were present for most of the growing season, although numbers reduced in winter growing regions.

John said growers also faced crop damage from bean pod borers, which wreaked the same havoc as heliothis, although borer caterpillars were only found inside the pods.

He said the occurrence of silverleaf whitefly had increased dramatically since it was first discovered in the Northern Territory in 1989.

"It originally came in from the States in the late '80s and has spread around the country - it prefers hot conditions," John said.

"The problem is it's very resistant to a lot of insecticides and you have to throw everything you've got at it."



Southern Gold is a high quality hybrid onion based on the early Pukekohe long keeper onion strains. Southern Gold has a very strong early season vigour enabling good early season root establishment with pink root tolerance. Southern Gold produces an onion with a strong globe shape with a flat base, high quality skins with strong golden brown colour. Southern Gold shows the excellent storage characteristics Pukekohe long keeper onions are renowned for.



Stockade F1 (ON 617) is a new early season brown hybrid. Uniform globe shape and thick necks are some of the strong attributes of Stockade F1 (ON 617). Suggested sowing is mid to late July for 50% tops down approx. mid January.

For further information, please contact your local Rep or Syngenta Seeds / S&G brand on tel. (03) 9706 3033.





# Getting to the root of things: disease control in seeds and seedlings

Serve-Ag Research Pty Ltd has embarked on a three-year project to test new seed dressings for the Australian vegetable industry. The project is already half completed, but if the research fulfils expectations, Susan Hudson finds that results could revolutionise our current approach to disease control in seeds and seedlings.

Broad-spectrum chemicals used for the past 40 years are increasingly seen as out-moded. Scientists and chemical companies have been looking at developing more sophisticated chemicals with greater accuracy at targeting the disease-causing organisms and at the same time protecting the beneficial, friendly insects found in and around crops. At the same time consumers are demanding pesticide-free products.

In October 2004, Serve-Ag Research scientist Dr Hoong Pung began testing a range of new chemicals on major vegetable groups such as pea, bean, cucurbit and brassica seeds and seedlings.

The project is aimed at controlling damping off pathogens that are common in many vegetable soils such as *Rhizoctonia solani* and species of Fusarium and Pythium.

Hoong testified to the importance of this research, saying the old broad-spectrum chemicals tended to kill everything – good and bad.

"The new chemicals have stringent quality control, and the development of these improved chemistries allows growers to better target pests and diseases," Hoong said.

"But it has been hard to convince companies to allow them to be tested here on vegetable seeds because we are a very small market compared to broad-acre crops like wheat and canola, and there isn't a great deal of financial gain to be made." Therefore, this project is a first of its kind where the Australian vegetable industry and researchers are taking a pro-active role in ensuring that new seed dressing products, that have been developed for use in broad-acre crops, are also used to benefit vegetable seedlings.

"Seed dressings use only a small amount of chemicals, so even though the new chemistries are more expensive, growers will use far less of them," Hoong said.

"At the beginning of the project only one chemical company showed interest, eventually providing some voluntary funding, samples and support in the evaluation and development of their new seed dressings for use on vegetables.

"But recently another company came on board with additional funding and alternative new seed dressings for initial evaluations," Hoong said.

"The participation of product manufacturers is vital if we wish to get new products registered for commercial use by growers. Otherwise we will be just doing research work without the possibility of a useful outcome for the vegetable industry.

"This project is important because to have good crops we need to ensure nothing we apply affects seed vitality or germination, and that the seedlings establish quickly in the field with healthy roots," she said.

The first part of the study involved laboratory work in cooperation with the chemical manufacturer, particularly to assess their safety and efficacy on major vegetables including peas, beans, cucurbits and brassica. Some of the active ingredients in new seed dressings developed for broad acre crops and tested in this project were azoxystrobin, fludioxinil, metataxyl-M, and difenconazole.

After the safety range was determined for each crop, the seeds were treated and stored to ensure that there were no adverse side effects.

Preliminary studies also showed that some new seed dressings stimulated seedling growth on cauliflowers, peas and beans, and improved germination of an infected batch of pumpkin seeds.

"Seed dressings use only a small amount of chemicals, so even though the new chemistries are more expensive, growers will use far less of them," Hoong said.

"If pests and diseases aren't knocked out of the seeds when small, then growth is stunted and the plants are weak, so the first six weeks of life are critical."

Hoong is now at the stage of field trials and future research will concentrate on leafy vegetables like lettuces and root vegetables such as carrots.



Effects of seed treatments in protecting seedlings from Pythium damping off.

Field trials on bean seed treatments are being conducted with the involvement of McCain Foods and Simplot Australia who are interested in identifying new seed treatments for the processing vegetable industry.

According to Hoong, the research looks very promising, with a range of new chemicals tested, and with researchers also looking at using combinations to get the best results, – especially to sort out a combination of soil borne diseases that attack the roots of the growing plant.

"We were getting good cooperation from growers, many of whom are very interested in the outcome of this research," she said. According to Lee Peterson, technical manager for Houston Farms in Tasmania, this research to control diseases in seeds and seedlings is imperative for the consistency of yield.

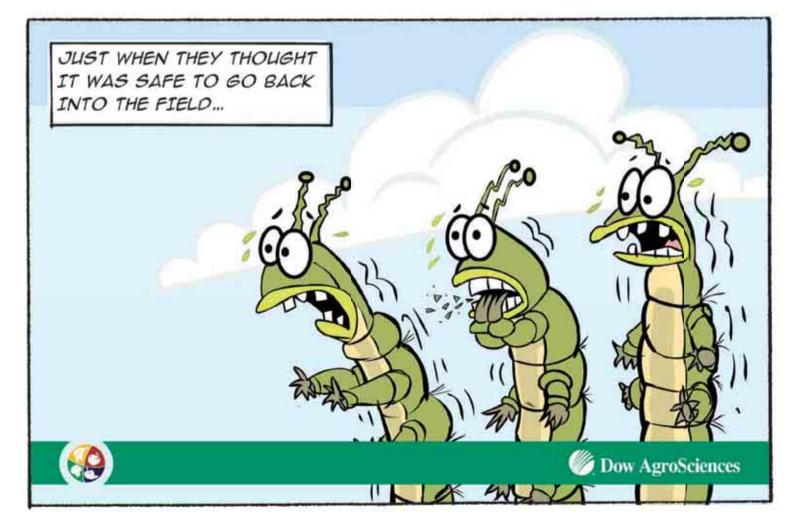
"As far as developing baby leaf lines for fresh cuts salads, we have been struggling with germination and poor root development, so the implications and findings are critical to us," Lee said recently.

The research is due to be completed in December 2007.

#### The bottom line:

- Broad spectrum chemicals for disease control are considered outdated.
- Seed dressings use small amounts of chemicals to help germination and development in the very early stages of growth.
- While the new chemistries are likely to be more expensive, growers will use less of them in the long term.

For more information: Visit
www.ausveg.com.au/levy-payers/login.cfm
Project number: VG04021
Keywords: Disease control, seed dressing



## australian vegetable industry CONFERENCE



Stephen Strachan, CEO of the Winemakers' Federation of Australia

As the vegetable industry enters an important stage of strategic planning, it might be beneficial to take a moment reflect on history, and refer to the experiences of other industries in their own journeys toward sustainability and long term profitability on the Australian landscape.

One industry which has demonstrated a significant move toward ongoing viability over the last decade is the Australian wine industry. Earmarked as a boom industry 15 years ago, the wine industry saw a need to initiate the development of a strategic plan which would guide the industry, and help it realise its potential in both domestic and export markets.

Stephen Strachan, CEO of the Winemakers' Federation of Australia since 2003, joined the industry in 1995 at a critical time.

"The wine industry had gone through an industry commission inquiry, and quite naively believed that the government would develop a template for the industry as to how it would grow in the future," said Stephen.



# Vision 2025 and the Marketing Decade

Stephen Strachan, CEO of the Winemakers' Federation of Australia speaks to Youna Angevin-Castro about the wine industry's journey through strategic planning.

"All it did was help the government to write a template on how taxation should increase on the wine industry. Therefore, the industry set about to write its own industry plan, and set about a process in which to do it."

In 1996, the wine industry released its strategic plan – Vision 2025 – a blueprint for galvanizing the industry around a broad single vision.

You have to provide strong leadership, but you also have to listen and bring on board good ideas, and be capable of rejecting bad ideas.

"Vision 2025 was designed to bring the industry around a common understanding of what the opportunities were over the next few decades. We had to acknowledge that there was a range of players, of different sizes and thoughts, across the industry, so we had to develop a plan which was both broad and inclusive, but which also set out, in quite definitive terms, what the opportunities were," said Stephen.

"We then set about to develop a process of getting it out there, with the objective of having full industry ownership at the end." When asked to identify the most challenging aspect of developing such a plan, Stephen insists that the challenge of being both receptive and responsive to a range of different ideas can be a bit of a juggling act.

"You really have to balance providing leadership against listening and hearing ideas. The two aren't mutually exclusive, but quite often you get a lot of different views around how to move forward," he said.

"I guess you have to be quite uncompromising, in the sense that you have to provide strong leadership, but you also have to listen and bring on board good ideas, and be capable of rejecting bad ideas."

With a modest budget of \$150,000, the wine industry set up a taskforce, and set about defining their vision, and developing the key strategies for achieving positive outcomes.

"Through the process we started to come up with broad conclusions, which we then presented to the industry through the state associations or industry conferences. We took every opportunity to communicate with the industry, and really maxed out the consultation process on the way through."

With an industry represented by 8000 growers and a couple of thousand wineries, including of a large number of small operators, Stephen recognises that a number of challenges have arisen since the release of Vision 2025.

## australian vegetable industry CONFERENCE 2006



In 1999, the wine industry hit a hurdle which would lead to the development of an additional strategy. Massive plantings had led to an oversupply of grapes, and the market was now flooded. Therefore, in 2000, in an attempt to address this oversupply, the industry released The Marketing Decade – a strategic marketing plan.

"We were quite clear that the Australian wine industry was very much about producing branded wine. We aren't a commodity producer, therefore we needed to reiterate the need for having a solid marketing strategy in place in order to be successful in the future."

With the industry encouraged to make a commitment toward its marketing, The Marketing Decade sought to foresee some of the problems the industry was facing by highlighting some of the key indicators in the marketplace. But the plan was not a great success.

"The biggest shortfall was that people didn't take any notice of it. In hindsight, the call to action probably wasn't very strong, and people possibly didn't have the resources available to implement some of the strategies.

"Unfortunately, the problems we were trying to address in 2000 are still relevant today. We are still seeing new wineries come into the industry every year, and we are still seeing plantings going in at fairly high levels. A lot of people thought that the

bubble just wasn't going to burst, and that the opportunities were endless. Of course, that isn't true."

Today, Stephen indicates that the wine industry is currently undergoing another period of strategic planning, which will work in partnership with Vision 2025.

"One piece of advice I would certainly offer the vegetable industry is to undertake an annual review of the strategic plan – whether at an annual conference or otherwise. It is very easy to be consultative with the industry at the beginning, and then to forget about it over time.

"However, the more engagement you can provide moving forward, the more ownership you will witness from the broader industry, and the more successful you will be."

i

Stephen Strachan is presenting a talk on Vision 2025 and the Marketing Decade at the 2006 Australian Vegetable Industry Conference in Brisbane.

#### rom seed to serving heavy yields and is a mid season very high yielding supersweet, good sugars fast maturing vigour, excellent dense, crisp flesh colour & quality. excellent leaf medium cob size. texture & thickness large seedless excellent rust winter harvest talerance. Suitable superior shelf life highly resistant to for fresh market and processing See you at the Aus Veg Conference

For further information contact:

QUEENSLAND: Ph: 07 4635 2099 www.lefroyvalley.com

WESTERN AUSTRALIA: Ph. 08 9409 5400

NSW/SA/TAS/VIC: Ph: 03 8770 6666





# Time for a sea change

With intense priced-based competition from China forcing Australian vegetables out of traditional Asian markets, the need for exporters to develop new markets further afield has never been greater. Graham Gosper investigates.

New research suggests there may be a solution to the rising cost of air freighting fresh produce to far-off destinations, such as the Middle East. It has found it is physically and economically possible to ship broccoli, cauliflower and lettuce to Dubai by sea using new storage and packaging methods.

Dr Jenny Ekman, NSW Department of Primary Industries (DPI) Research Horticulturist (Market Access) at the Gosford Horticultural Institute, led the research project. She said that while the potential of Middle East vegetable markets has been recognised for some time, the Dubai market had previously been accessed only by air freight.

Although sea freight is significantly cheaper, many thought transit times were too long for products to arrive in good condition and with an acceptable shelf life. That view has persisted despite significantly reduced shipping times in recent years and advances in harvesting, packaging and storage.

# There may be a solution to the rising cost of air freighting fresh produce to far-off destinations.

Jenny said it was against that background that the Dubai project was developed in consultation with a steering committee, members from AUSVEG, Horticulture Australia (HAL), grower representatives, exporters, NSW DPI and Food Science Australia. The aim was to examine the feasibility of exporting broccoli, cauliflower and lettuce to Dubai by sea using the new storage technologies and packaging.

## Initial research at the Gosford Institute laboratory found that:

- Broccoli could be stored for up to three weeks in ice, four weeks in air alone or five weeks in atmospheres containing 10%O<sub>2</sub> + 10%CO<sub>2</sub> or 2%O<sub>2</sub> + 2%CO<sub>2</sub> and still have acceptable quality and shelf life under retail conditions
- Cauliflowers were still acceptable after five weeks as long as water loss was minimised
- Lettuce quality after 3–4 weeks was variable; storage life depends on initial quality.

The initial work convinced the project team to go ahead with a full scale static trial at the Food Science Australia container testing facility in Sydney and to add a parallel live shipment to Dubai. Each trial compared a standard and a modified atmosphere (MA) 6 metre reefer container.

The static trial and live shipments compared outturn quality and shelf life between the standard and the MA (modified atmosphere) shipping containers. This technology uses respiration of the stored product to increase  $\mathrm{CO}_2$  and decrease  $\mathrm{O}_2$  inside the container, potentially increasing storage life. A number of different packaging treatments were also trialled. Products were stored for 23 days at -0.5°C in the static trial and 26 days at +0.5°C (air) or -0.5°C (MA) in the live shipment.

In August last year Jenny led a team to Dubai to witness first hand the results of the trial shipment. The team included grower/ exporter John Said, managing director of Victorian vegetable company Fresh Select, grower/exporter Anthony Staatz and his wife Dianne of Koala Farms and fellow DPI researcher John Golding. They were there to assess samples when the containers were initially unloaded and again after simulated retail sale.

Jenny said the Dubai importers considered the broccoli shipped in the two containers to be in good condition on arrival. The cauliflowers were acceptable although pre-harvest curd yellowing was an issue. The lettuces were in variable condition due to bacterial soft rots and pink rib disorder and were repacked before sale.

By comparison all of the static trial products were considered to be in generally acceptable condition at outturn.

Jenny said the project team which flew to Dubai was impressed with the results and their enthusiasm was shared by the Dubai importers who are keen to receive more shipments from Australia.

Jenny will present the results of the Dubai project to the Australian Vegetable Industry Conference at the Brisbane Convention and Exhibition Centre on May 10–12.

#### The bottom line:

 Shipping trials to Dubai have found that modified atmosphere shipping containers can increase postharvest life, making export to the Middle East viable.



For more information: Visit www.ausveg.com.au/levy-payers/login.cfm Project number: VG04020 Keywords: Export, shipping

## australian vegetable industry CONFERENCE





## Opportunity by the container load

When Dr Jenny Ekman agreed to lead a research project to assess the feasibility of exporting Australian vegetables to Dubai by sea she didn't know that a few months later she would be packing her bags to visit the Middle East.

Originally only a static trial using containers in Sydney was planned. But the success of initial storage experiments prompted the project team to extend the project to include actual shipment of two containers to Dubai.

Jenny flew to Dubai in August last year for a first-hand assessment of the outcomes and she stayed on for a week studying local market system and facilities.

"For me, the biggest surprise was the contrasts of the Dubai markets," she said. "The high end is super first world, supplying quality produce to the hundreds of five-star hotels and resorts. At the other end general markets are more third world, supplying poor quality produce – and there is a whole range in between."

Jenny said cheap labour was also a feature, resulting in less mechanisation but giving the markets lots of flexibility.

When lettuces which arrived in the project shipment were found to be of variable quality the Dubai importers had no trouble getting labour to repack them, and at a cost that still gave them a profit margin.

Jenny also visited the ultra-modern Jebel Ali port which has confirmed Dubai as the trading hub for the Middle East. She was astounded by the operating efficiency of the port which is among the ten busiest in the world for container traffic.

She said that, together with tax free zones for foreign businesses and a forecast economic growth rate for the area of more than 12 per cent over the next 12 months, such facilities make Dubai an obvious choice for vegetable exporters ready to supply a rapidly expanding market.





# Changing for a

Richard Bovill, a 4th generation Tasmanian grower, industry activist and 2005 Tasmanian of the Year, reflects on 35 years in the industry and the need for innovation and change. By Stephen Zelez.

With over three decades of growing experience, Richard Bovill, who grew up on the family farm in East Devonport in Tasmania, has always maintained a progressive view to his business. So when the opportunity came up 23 years ago to align his business strategically with Tasmanian retail chain Roelf Vos Supermarkets, he took it with both hands.

"About 23 years ago, we entered our business' most significant partnership with super market chain Roelf Vos supermarkets, where I managed their produce buying and distribution. Eighteen months after we set that business up, Roelf Vos was taken over by Woolworths and for the next 15 years we ran the business as a joint venture."

Over time, Richard's involvement with the business grew, and he moved into the position of State Produce Buying and Distribution Manager for Woolworths — a role he continued for about three years until Woolworths moved from a state-based administration, to a national-focused administration in Sydney.

"I assisted in the transition where I witnessed a lot of mature relationships and history disappear from our industry, and I found it difficult to continue in that role. State-based relationships were easy to manage when you knew the people and they recognised the business and contribution you were making to their businesses. But once the transition process was over I stepped aside and focused more on the farm," Richard said.

Over the years Richard has repositioned and grown his business on the back of his extensive relationships with the Tasmanian retail sector.

"On the farm we refocused the business, moved more into cattle and sheep, and got involved in fresh market gardening in Tasmania.

"We now grow about 65 per cent of all the iceberg lettuce during the season in Tasmania, the majority of the cos. We also grow carrots to a packer for the mainland and overseas, onions for export, pyrethrum and poppy flowers, potatoes for both fresh and process markets and other incidental crops, as it suits us."

Strong relationships have also allowed Richard over the years to take up many business opportunities, such as importing kiwi fruits and stone fruits from New Zealand for domestic markets.

"The most powerful thing we have is the quality of our networks and our relationships. You get more value out of them than anything else - they give you access to the market and new information.

"I have learned that windows of opportunity only open up for very small periods of time. And they're generally only seen by those who have tight relationships and are a part of networks."

It has been a busy couple of years for Richard, juggling the management of his diverse business interests, industry activism and now as Chair of the Vegetable Industry Development Group.

Richard's outlook on the 'Fair Dinkum Food' campaign – where Richard and his supporters coordinated the journey of hundreds of tractors from Tasmania to the steps of Parliament House in Canberra - reveals the motivation behind a crusade that would plant the seed for industry consolidation and change.

# future

"We have to recognise that the reason why many of us have been hit so hard is that we, have avoided change."

"Millions of dollars' worth of grower contracts were disappearing from industry. This was hurting not just farmers but entire rural communities. The issue was as much about regional development as it was about farming.

"We were failing because Australian grown products couldn't be differentiated in the market place. The tractors were our vehicle to crystallise public opinion.

"I'm not naive enough to suggest that it has had a huge impact on the way that Australians do their purchasing, but I do think that it has now given us as growers the opportunity to step up and build a robust Australian grown brand."

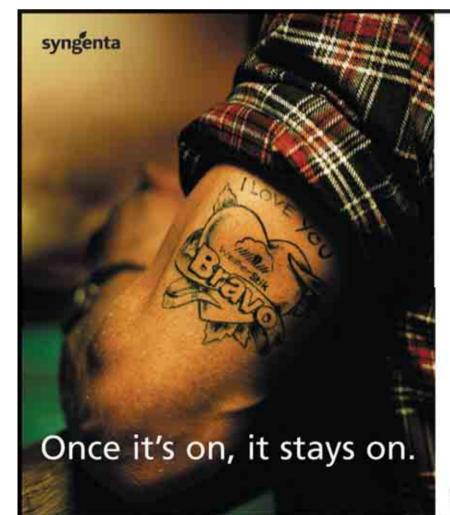
Richard believes that Australian growers need to embrace change to progress their businesses so that they can respond to market demands.

"We have to recognise that the reason why many of us have been hit so hard is that we have avoided change.

"We can't expect things to remain the same forever, and we can't drive tractors up and down the road every time things get too hard.

"If we can't devise opportunities out of that, then there's not much hope for us. "We need to have a more strategic focus to what we're doing. That is the sole purpose of an industry strategic plan and IPP - to ensure the industry leadership and tools required are there to allow us to set up our businesses for the long term, so that in five to ten years we are the world's most innovative producers."

Richard was recently appointed Chair of the Australian Vegetable Industry Development Group (AVIDG) which is responsible for overseeing the delivery of the seven foundation projects. The first of these being an Industry Strategic Plan which will be unveiled at the 'New Vision' Vegetable Industry Conference in Brisbane, May 10-12.



Now BRAVO\* is even better with new BRAVO WEATHERSTIK\*. The advanced surfactant technology in BRAVO WEATHERSTIK maximises its ability to stick to the plant surface, even after heavy rainfall or irrigation. So you can be confident irrespective of the weather, that BRAVO WEATHERSTIK will stick better and protect longer than all other brands of chlorothalonil. For more information please visit www.syngenta.com.au or call the Syngenta Technical Product Advice line on 1800 067 108.



® Registered trademark of a Syngenta Group Company \*\*\*Trademark of a Syngenta Group Company ABN 33 002 933 717 SYN017 HF VA 05/149 **Platinum Sponsors** 

**Bayer Crop Science** 

www.bayercropscience.com.au



Bayer CropScience was established in Australia in August 2002 after Bayer Crop Protection – a pioneer in crop protection since 1892 – acquired Aventis CropScience, one of the world's leading forces in crop protection, environmental science and bioscience.

Thanks to our heritage, Bayer CropScience has a strong global and local presence, with extensive and impressive product offerings in insecticides, herbicides, fungicides and seed treatments. We offer what is arguably the most comprehensive list of crop protection and production products in Australia.

Queensland Department of Primary Industries and Fisheries (QDPI&F)

www.dpi.qld.gov.au



The Australian and Queensland vegetable industries are seeing renewed growth thanks to the latest research and development initiatives by the Queensland Government.

The Department of Primary Industries and Fisheries (DPI&F), one of Australia's main R&D providers, has delivered some real benefits for the industry in a number of its current projects.

These project activities are delivered from ten DPI&F research facilities throughout the state from Gatton to Kairi, which reflects the diversity of the environments and cropping systems of this industry.

Future focus will include maximising water use, understanding climate change and variability, and using mechanisation and precision technologies to improve production profitability. DPI&F are interested in developing partnerships in these areas.

To find out more, visit the department at the Australian Vegetable Industry Conference 2006. DPI&F is a proud sponsor of the conference.

#### **Signature Sponsor**

The Australian Government Department of Agriculture, Fisheries and Forestry (DAFF)

www.daff.gov.au



Australian Government

Department of Agriculture, Fisheries and Forestry

The Australian Government Department of Agriculture, Fisheries and Forestry (DAFF) is responsible for Australia's agricultural, fisheries, forestry and food industries. Their role is to increase the competitiveness, profitability and sustainability of these industries through:

- Sustainable use and management of the natural resources
- Protecting the health and safety of our plant and animal industries
- · Responsive and efficient industry
- Improved market access and performance
- Benefiting from new technology and practices
- · Skilled, financially self-reliant producers.

The Department employs around 4200 staff working in Australia and overseas. Their range of staff include policy officers, program administrators, scientists, economists, meat inspectors, veterinary officers and quarantine inspectors.

#### **Gold Sponsors**

Rijk Zwaan

www.rijkzwaan.com



#### RUK ZWAAN

In today's vegetable market nobody operates independently. The various parties in the chain make diverse, ever higher demands. As breeders and suppliers of vegetable seeds, we are only too aware of this when we develop new varieties with added value such as good taste, improved resistances and an attractive appearance.

At Rijk Zwaan Australia we aim to offer proven varieties backed by sound growing advice. This whole of chain approach we call Seeds & Services! It's laying the foundation for you to supply top quality vegetables!

Terranova Seeds

www.tnseeds.com.au



Reliable seeds. Quality seeds. That's what you can count on every time when you think Terrranova Seeds.

Since 2003, Yates Vegetable Seeds has traded under its new ownership as Terranova Seeds in Australia and New Zealand.

Our core benefit to customers is reliability. Offering the reassurance that our people have experience and expertise, and the products we offer are proven in research and proven in use.

Head office is based in Sydney's western suburbs with a team of specialised technical sales people throughout Australia, and field staff across New Zealand. We also service the Pacific Islands from our New Zealand Office.

#### Agrichem

www.agrichem.com.au



Agrichem is a world leader in the development, manufacturing and distribution of plant nutrition solutions and disease control products. Our mission is to ensure professional growers optimise plant health and vigour, thereby maximising yields and returns.

Plant nutrition has changed considerably since the days when farmers simply applied bulk fertiliser in the hope it would lead to greater crop yields.

For more than 20 years Agrichem has partnered with government departments, agronomic organisations and professional growers around the world in extensive research and trial programs to unlock the complexities of plant nutrients. As a result of this research, professional growers no longer use a "one size fits all approach"; instead they follow a specific program targeted to crop growth stages and deficiencies.

## australian vegetable industry CONFERENCE

**APVMA** 

www.apvma.gov.au



The Australian Pesticides & Veterinary Medicines Authority (APVMA) is the independent Australian Government authority responsible for administering and managing the National Registration Scheme that oversees the sale and use of pesticides and veterinary medicines in Australia. The APVMA does this in partnership with the State and Territory governments and with the active involvement of other government agencies.

Within the scheme, the APVMA assesses and registers pesticides and veterinary medicines before they can be supplied or used. All registered products must work, be safe to people and the environment and not jeopardise Australia's trade with other nations. The APVMA also manages a number of programs that monitor the ongoing safety and performance of registered products.

The work of the APVMA protects the health and safety of people, animals, the environment and trade.

**Silver Sponsors** 

Withcott Seedlings

www.wseedlings.com.au



Withcott Seedlings Qld and Smart Salads<sup>®™</sup> were established in 1983 by Graham and Wendy Erhart.

The business filled a market gap by supplying consistent quality vegetable seedlings and individual customer service.

During December 2002, due to worsening drought conditions, the management team formulated a strategic plan to diversify. The aim was to utilise the workforce of 90 employees, and existing capital infrastructure. One ground–breaking method was Smart Salads®™, the growth and harvest of baby salad greens in environmentally controlled conditions. The company's patents allow baby leaf salads to be hygienically cut and chilled in under 20 seconds. Smart Salads is a subsidiary company that is now a world leader for its innovative growing techniques.

Lefroy Valley

www.lefroy-valley.com.au



Lefroy Valley is proud to provide growers solutions to agriculture. We are a vibrant, growing horticultural seed company committed to delivering solutions to the challenges faced by farmers in Oceania.

The Blakers family, who were established Western Australian vegetable farmers, set out to introduce farmers to vegetable seed lines originally developed to meet standards for their own export production. Lefroy Valley was established by them in 1983 to provide high quality seed to the industry.

From grower origins our heart and soul are deeply rooted in agriculture. This reflects in our business showing a clear understanding of the growers, industry, and aspirations.

Chep

www.chep.com



CHEP is the global leader in pallet and container pooling services serving many of the world's largest companies.

CHEP issues, collects, conditions and reissues more than 265 million pallets and containers from a global network of service centres, helping manufacturers and growers transport their products to distributors and retailers. Combining superior technology, decades of experience and an unmatched asset base, CHEP handles pallet and container supply chain logistics for customers in the consumer goods, produce, meat, home improvement, beverage, raw materials, petro–chemical and automotive industries.

CHEP, a Brambles company, employs more than 7,700 people committed to delivering total quality customer service in 42 countries.

**Dow Agrocsciences** 

www.dowagro.com.au



Dow AgroScience

Growers know and trust the established products Success\*, Lorsban\*, Systhane\*, Dithane\* and Mimic\*, from Dow AgroSciences, a key supplier to Australian horticulture.

Success\* Naturalyte\* provides effective control of key pests in fruit and vegetables with safety to beneficial insects and has recently been registered for use in a wider range of crops, including cucurbits and many tropical and sub-tropical fruit crops.

Entrust\* Naturalyte\* is also available for use on organic farms.

Naturalure\* Fruit Fly Bait is now registered for control of fruit flies in all host crops with no with–holding periods. Naturalure also has organic certification.

Dithane Rainshield\* NeoTec fungicide was recently introduced to expand the product range.

\* Trademark of Dow AgroSciences

Nufarm

www.nufarm.com.au



Nufarm is proudly Australian and for more than 50 years has worked alongside Australians to provide a wide range of top quality crop protection products.

The Nufarm product range includes a wide range of herbicides, insecticides, fungicides, adjuvants, plant growth regulators and fumigants to aid in disease, weed and pest management. Nufarm has a committed team of Regional Horticulture Managers and Territory Managers to service all horticulture regions, as well as our product range.

Nufarm is proudly committed to Australian agriculture. Australian growers, by insisting on Nufarm, can ensure that they support the company who supports research and development within Australia. This will result in a more sustainable Australian food sector, better equipped to compete in the global market.

Syngenta

www.svngenta.com.au



Syngenta Seeds is a world leading agribusiness committed to sustainable agriculture through innovative research and technology.

Syngenta employs some 19,000 people in over 90 countries. Our vision is to be the leading provider of innovative solutions and brands to vegetable growers, wholesalers. retailers and to the food chain.

Syngenta Seeds offers a broad range of vegetable seeds to suit growers, wholesalers and retailers requirements. We deliver industry leading varieties in all key crops.

#### **Bronze Sponsors**

**Brisbane Produce Markets** 

www.brisbanemarket.com.au



Brisbane Produce Market is located at Rocklea, just 11 kilometres from Brisbane's CBD, and is Queensland's only central fruit and vegetable market, the State's most important centre for the marketing and distribution of fresh produce.

It records annual trade in excess of 600,000 tonnes of produce valued at more than \$800 million.

Some 55 primary wholesalers operate at the site as well as an additional 93 support businesses.

More than 4000 people work or do business at the Brisbane Markets on a daily basis. In excess of 9000 growers supply produce for sale.

An established Grower's Hotline can be reached 24 hours a day on 1800 631 002. Vin Rowe Farm Machinery

www.vinrowe.com.au



Vin Rowe Farm Machinery was established in Warragul, 100 kilometres east of Melbourne in 1961.

The company has expanded from a small retail business to become Australian importer of various leading brand products.

The company specialises in products for vegetable growers and dairy farmers.

They currently represent:

- · KV Underhaug Potato Equipment, Norway
- · Asa Lift Vegetable Equipment, Denmark
- · AVR Potato Harvesters, Belgium
- Baselier Soil Preparation Equipment, Netherlands
- Kuhn Grass and Tillage Equipment, France
- · Gehl Farm Equipment, USA
- · Conor Wrappers, Ireland.

Their involvement with leading European and American manufacturers allows them to be exposed to the latest farming technologies.

#### Suncorp

www.suncorp.com.au



Suncorp's beginnings date back to 1902 with the establishment of the Queensland State Agricultural Bank. Today, Suncorp is one of Australia's top 25 listed companies with assets of over \$48 billion, employing more than 8700 staff to serve 4,200,000 customers. We are the nation's 6th largest bank and 4th largest insurance group.

With local branches from Mareeba in northern Queensland to Warrnambool in Victoria, Suncorp has local Agribusiness Managers who understand local industry dynamics. They are professional who respond personally to the needs of rural producers. Suncorp's diverse financial services are tailored by our local Agribusiness Managers to meet the needs of individual rural businesses.

Wyma Engineering

www.wymaengineering.co.nz



At Wyma the aim is simple - to deliver you the best fruit and vegetable handling equipment available.

For the past 20 years Wyma Engineering has helped customers maximise the value of their fruit and vegetable crop.

Whether you are a grower, pack house operator, shipper or packer, they can assist you to:

- · gently tip fruit or vegetables from field bins into your wash, pre-pack or repack lines,
- wash and polish your potatoes, carrots or other crops.
- · size and grade your crop,
- pack your fruit and vegetables into bags.

They can also design and manufacture you a complete dry, wash, pre-pack or repack line and install/commission it anywhere in the world.

South Pacific Seeds

www.southpacificseeds.com.au



South Pacific Seeds commenced operations in 1986 as a wholesale distributor of quality vegetable seeds throughout Australia and New Zealand through an extensive network of resellers. Since that time SPS has grown considerably with over 100 permanent employees and a large number of seasonal workers and has become one of the leading seed companies on the Australian domestic market.

SPS distributes for many top class breeding houses around the world and have involved our technical staff first hand to investigate the latest breeding material as well as gain valuable experience and understanding of varietal performance under different climatic and cultural conditions.

Ongoing screening trials are undertaken in all major production areas to assess the latest varietal releases and breeding advances: and to select the best material in terms of disease tolerance, quality, yield

## australian vegetable industry CONFERENCE

and performance for domestic production conditions.

The SPS team understands the complex and ever changing nature of the industry and the ongoing issues that growers go through in seeing crops through from varietal selection to harvest.

#### Naandan Australia

www.naandan.com.au

### NAANDAN AUSTRALIA

NaanDan Australia joined global subsidiary NaanDan Irrigation Systems (Israel) in 2004. NaanDan develops and manufactures advanced irrigation technologies with a product range enhanced by the 2001 merger of two long established Israeli companies. The renowned sprinkler and driptube products of Naan are now combined with the technology of Dan.

Naandan manufacture driptube in Dandenong, which allows for timely supply. NaanDan welcomes the opportunity to broaden their knowledge and product range and is therefore willing to participate in project work. NaanDan supplies a wide range of products to cover all irrigation needs. NaanDan provides products for industries including: agriculture; horticulture; nursery and greenhouse; and landscape.

#### Chemtura

www.cromptonanz.com.au



Chemtura Australia provides a total range of crop protection products, protecting crops against diseases, pests and weeds in Australia and New Zealand. The range includes fungicides, herbicides, insecticides and plant growth regulants.

Our Sales Agronomists can provide technical advice and a unique range of product solutions. They are able to utilise Chemtura's worldwide technical staff and sophisticated laboratory services for information on formulations and regulatory affairs. "Improving performance is our profession."

#### NetPro

www.netprocanopies.com



Today, crops are covered by netting structures for a range of benefits such as wind protection, predator exclusion and evaporation reduction.

The ability to guarantee supply of product each year has also enabled fruit and vegetable marketers to secure better pricing contracts, as well as providing financial lenders with confidence in the industry.

Netpro's services include individually designed and costed customised solutions, addressing the specific farming requirement for each and every situation.

#### SprayGro

www.spraygro.com.au



Spraygro Liquid Fertilizers are Macro and Micro Plant Nutrient Specialists. The 100% Australian owned company are at the leading edge when it comes to liquid nutrient technology. They research, formulate and produce an extensive range under the guidance of their product chemist, who has the added benefit to the industry of being a PhD plant physiologist.

Spraygro products, when combined with their crop nutrient programs and your specific conditions and requirements, offer prescription blending to enable growers to maximise quality yield parameters.

Spraygro products are available through leading agricultural resellers.

#### AustSafe Super

www.austsafe.com.au



Choosing the right superannuation fund is ultimately important not only to you but particularly to your employees.

AustSafe Super's presence and good reputation in regional areas has seen membership broadened to non rural businesses.

Good returns, low fees (with no hidden costs), quality products and professional, friendly service and satisfied members are our proof of success.

You should obtain a Product Disclosure Statement from AustSafe Super and consider it in deciding whether to purchase an AustSafe Super product.

Call Wayne Hulin on 07 3210 1808 or AustSafe's Customer Service Hotline on 1300 131 293.

#### Seminis Vegetable Seeds

www.seminis.com



Seminis (est. 1994) is the largest developer, grower and marketer of fruit and vegetable seeds in the world. Our products:

- · enhance nutrition and health
- · deliver tastier foods
- reduce chemical requirements
- · increase productivity and limit spoilage

Seminis offers 3500+ seed varieties, representing nearly 60 species including beans, broccoli, cabbage, capsicum, carrot, leek, cauliflower, celery, cucumber, eggplant, lettuce, melon, onion, pea, hot chilli, pumpkin, radish, spinach, squash, sweet corn, tomato, zucchini and watermelon.

Seminis operates 52 research and product development stations in 17 countries (more than US \$50M/annum invested into research), which allows us to adapt varieties to different microclimates and meet local consumer preferences.

### Food Standards Australia New Zealand FSANZ

www.foodstandards.gov.au



Food Standards Australia New Zealand (FSANZ) ensures safe food by developing effective food standards for Australia and New Zealand.

They are an integral part of a strong food regulatory system operating between governments at all levels in Australia and New Zealand.

## australian vegetable industry CONFERENCE

FSANZ develop food standards with advice from other government agencies, input from stakeholders and food regulatory policies endorsed by the Australia and New Zealand Food Regulation Ministerial Council.

Their decisions are open and accountable, based on the rigorous scientific assessment of any risk to public health and safety.

In Australia, FSANZ develop food standards for the entire food supply chain, from primary production through to manufactured food and retail outlets.

#### VisyBoard

www.visy.com.au



SOLUTIONS.

Visy Board is Australia's leading manufacture of corrugated fibreboard boxes made from 100% recycled and kraft papers.

With major corrugating facilities throughout Australia, NZ, PNG and the USA, Visy Board services some of Australasia's largest food, beverage, produce and consumer goods manufacturers, with an emphasis on quality, service and innovation.

Visy has worked with growers, packers and supermarkets to develop its range of boxes for the produce industry. Visy Black One Touch Boxes; the solution for produce supplied into major supermarkets, are designed to fit the needs of each produce category. Visy One Touch allows you to know exactly what you are paying for: better product protection and no hidden costs.

Visy also manufactures a wide range machine and hand erected cartons specific to your operations for wholesale and export markets.

#### Organic Crop Protectants Pty Ltd

www.ocp.com.au



Leaders in the development of BFA registered organic crop protection and crop biostimulants.

All of our products are ideally suited to IPM focused production systems. We are pioneers in the development of Australian grown canola oil based spraying oils like Synertrol Horti Oil and Eco-oil which is now a registered insecticide for the management of mites, whitefly and aphids in both conventional and organic growing systems.

If the Australian Vegetable Industry is asking Australian consumers to support Aussie grown produce, then as consumers of inputs on farm shouldn't vegetable growers support companies that manufacture locally using locally sourced raw materials? Support companies like Organic Crop Protectants who are in the business of organics because the philosophy supports family farms, local suppliers and local markets.

## Central Markets Association of Australia (CMAA)

www.cmaa.org.au



Members of the Association are Adelaide Produce Markets Ltd, Brisbane Markets Ltd, Melbourne Market Authority, Newcastle Markets Ltd, Perth Market Authority and Sydney Markets Ltd.

Central Markets are the major distribution point of the nation's fresh fruit, vegetables and flowers. The majority of Australia's fresh produce is traded or transhipped through Central Markets. They play a key role in the total supply chain, linking growers, wholesalers, retailers and associated industry groups.

Central Markets are essential to providing growers with an alternative distribution channel to market their produce and to maintaining a competitive pricing system.

#### Dobmac

www.dobmac.com.au

DOBMAC AGRICULTURAL MACHINERY



Dobmac Agricultural Machinery (Dobmac) was incorporated in 1983. Dobmac specialises in the design, manufacture, supply and service of specialist equipment for the root crop vegetable industry throughout Australia, New Zealand and globally.

The manufacturing division produces a range of equipment including potato planters, potato harvesters, potato seed cutters, onion & carrot lifters, and specialised

storage, grading, harvesting and packaging equipment for all types of vegetables, as well as having the unique ability to be able to custom manufacture equipment for a client's specific requirements.

Dobmac is the Australian and New Zealand distributor for well known USA manufacturers Top Air, Lockwood, Harriston and Mayo; UK manufacturer Pearson Standen, and European manufacturer ERC.

Dobmac also stocks a comprehensive range of spare parts and accessories for all types of equipment associated with the vegetable industry.

#### **Sponsor/Exhibitor Profiles**

#### Growcom

www.growcom.com.au

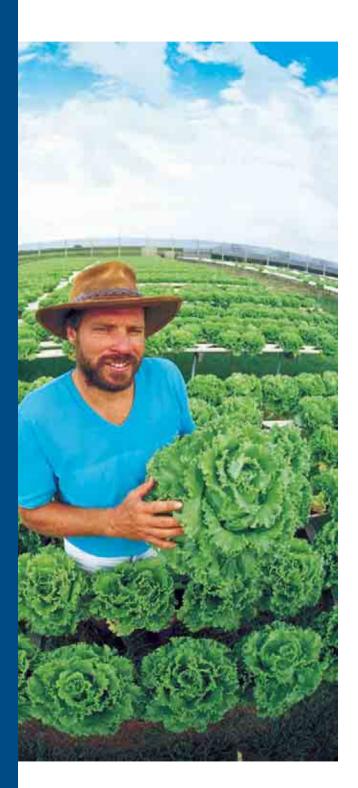


Growcom is the only organisation in Australia to deliver services across the entire horticulture industry to businesses and organisations of all commodities, sizes and regions, as well as to associated industries in the value chain.

While they are Queensland based, their ability and expertise holds no boundaries. Growcom provides a range of services, products and opportunities that help individuals and industries to achieve greater success. Expertise ranges from lobbying government to developing promotional campaigns and everything in between.

Growcom is the voice of horticulture, they are the champion of their members' needs and are the hub of the growing community. They have a core membership of Queensland's horticulture producers and also offer membership to individuals and industries beyond that definition.

## Science with a side of vegies



As one of Australia's main vegetable research and development providers, we are working to develop more profitable vegetable industries.

Applying our scientific expertise, we are focusing on developing internationally competitive vegetable production by looking at:

- new ways to reduce labour costs and increase productivity using the latest mechanisation technologies
- investigating ways to reduce water use while maintaining or increasing yield
- adapting the latest research to predict future climate variability and change and their effect on the vegetable industry
- 'clean and green' methods of pest and disease management
- breeding and developing vegetables with greater health and nutrition benefits
- new and improved varieties for niche markets
- tackling emerging pest and disease, urban organic waste and supply chain challenges
- achieving greater market access.

Our diagnostic service, GrowHelp Australia provides rapid identification and management options for pest and disease problems in vegetables.

We are a proud sponsor of the *Australian Vegetable Industry Conference 2006*.

#### For more information,

see us at the conference or visit: www.dpi.qld.gov.au

To contact GrowHelp Australia, call (07) 3824 9526 or email: growhelp@dpi.qld.gov.au







## Boosting fertiliser efficiency

Australia's environment is set to benefit from a project to allow growers to use less fertiliser when transplanting vegetables. By Carolyn Walker.

Australian vegetable growers may soon be able to grow transplanted vegetables with less fertiliser, thereby reducing the impact of fertilisers on the environment.

Researchers at Western Australia's Department of Agriculture have been working on a project to establish achievable targets for good nutrition practice for transplanted crops grown under sprinkler irrigation. The methods should have application wherever these crops are grown throughout Australia.

All crops responded positively to nitrogen sprays in the first 2-3 weeks after planting.

Researcher Dennis Phillips said the project addressed increasing scrutiny on the irrigation and nutrition practices of Australian vegetable growers by environmentalists, and the perception that they were polluters of the environment – particularly water quality.

"Growers are also faced with the restricted supply of ammonium nitrate, one of the cheapest and most effective nitrogen fertilisers. Access to this granular fertiliser will be regulated in the future, adding extra costs to vegetable production. Consequently, we decided to test alternative nitrogen based fertilisers as possible substitutes," Dennis said.

The third factor motivating the research was the widespread use of poultry manure as a pre-planting fertiliser for vegetables growing on the Swan Coastal Plain's sandy soils. Raw poultry manure is banned

for much of the year in most production districts in WA.

The project aimed to repeat results achieved in another project in 2003 in WA, which showed that for iceberg lettuce, high rates of pre-planting poultry manure could be replaced by low rates of mineral nitrogen placed in the field with no yield loss and vastly reduced nitrate leaching to groundwater. The aim was to apply this to other transplanted leafy and heading crops, including celery, broccoli, cauliflower, cabbage, Cos lettuce and Chinese cabbage.

Field trials on virgin field sites compared between 24 and 40 combinations of seedling drench, early spraying and banding/ fertigating with four nitrogen fertiliser products (Ammonium nitrate, Urea, Nitrophoska Blue Special and Spurt-N).

The four fertiliser products were compared at the same rate of nitrogen and applied weekly to the crop from 14 days after transplanting until 'row closure'. Treatments were repeated three of four times, with around 160 individual plots totalling around 5,000 plants each time – all hand sprayed with fertiliser.

Eight trials have been completed, including two Iceberg lettuce (winter and summer), two Cos lettuce (winter and summer), one celery, broccoli, cauliflower and cabbage. The final trial involves Chinese cabbage, which is still growing.

Dennis said that final results were expected towards the middle of 2006.





# for transplanted vegetables

- A Petiole sap tests were done on all crops at harvest. This one is a cauliflower petiole with the blade removed from which sap will be extracted in the lab.
- B Cabbage plots on August 19 (36 days after planting) The only difference between the plants in the foreground and the bigger ones in the background is that the bigger ones were sprayed with Urea and potassium nitrate for the first 21 days and the small ones were not.
- C Granular Nitrophoska was banded between the rows on most trials by machine. This shows cos lettuce 28 days after planting on September 1.
- D Broccoli trial on June 13 (19 days after planting) up to 128 plots were sprayed with fertiliser solutions twice a week for 3 weeks in winter.

Source for all images: Dennis Phillips

#### The bottom line:

- No crops were visibly damaged by a seedling drench with potassium nitrate (greenhouse grade) at 40 grams per litre immediately before planting. Iceberg lettuce and cabbage gave marketable yield increases of up to 20 per cent at final harvest from drenching (equivalent to 2kg/ha of N) – the 20 per cent could be worth \$5,000 of extra return for \$14 worth of fertiliser for Iceberg lettuce.
- All crops responded positively to nitrogen sprays in the first 2-3 weeks after planting, with increasing vigour as the nitrogen rate increased. Marketable yields increased by 300–500 per cent between plots that had no nitrogen applied for the first two weeks and the optimum spray rate. This resulted from as little as 10 kg/ha of nitrogen per week for two weeks for summer lettuce and would have

returned an extra \$14,000 of marketable product for an extra \$70 worth of fertiliser. Broccoli, cauliflower and celery had their optimum yields at higher rates of spraying (20 kg/ha per week) while cabbage needed 26 kg/ha per week in winter.

- The four fertiliser products applied from 14 days to row closure gave similar results to ammonium nitrate in summer crops. Nitrophoska Blue Special was better for winter iceberg lettuce and cabbage, and seemed more resistant to leaching under regular rainfall. Urea did not perform well for winter iceberg lettuce, and Urea and Spurt-N were poorer for winter cabbage. March planted celery vielded best with Nitrophoska and Urea.
- There were problems with three trials.
   Chinese cabbage was severely damaged by the herbicide s-metolachlor (Dual Gold) on light sandy soils at below the

recommended rate on the permit for leafy brassicas; broccoli produced an excellent marketable crop, but the late appearance of potassium deficiency symptoms allowed threshold sap and leaf tissue levels for this disorder to be identified; cauliflower showed symptoms of phosphorus toxicity symptoms close to harvest that did not affect crop marketability.

i

For more information: Visit www.ausveg.com.au/levy-payers/login.cfm Project number: VG04018 Keywords: Fertiliser





- Leeks
- Asparagus
- Tomatoes
- Cherry Tomatoes

- Cucumbers
- Capsicums
- Rockmelons
- Potatoes

Representing





HAMERSLEY TRADERS

Phone: 08 9447 5956 Email: hamtrad@aapt.net.au www.hamersleytraders.com.au





# **Confidor – the final solution?**

Phillip Frost and Dennis Patten of Serve-Ag Research (Tasmania) are heading up a research project to assess the effectiveness and safety of Confidor® (Imidacloprid) in dealing with lettuce aphid. By Susan Hudson.

It is now two years since the lettuce aphid (Nasonovia ribisnigri) arrived in Tasmania (March 2004) on a freakish warm wind current that carried it 2,600km from New Zealand. The one-in-a-million meteorological event enabled the small creature to devastate Tasmanian lettuce crops. By May 2005 it had spread to Victoria, and in February this year it was identified in New South Wales' Sydney Basin.

"Consumers and food chains need education too, because they often place unrealistic expectations on growers, expecting them to produce lettuce without even one aphid."

As there is still no market acceptance for the presence of any insect in fresh produce, commercial lettuce producers want a viable pest control strategy that enables them to meet market expectations. This project was conducted to evaluate and develop insecticides for commercial lettuce growers to use as part of the integrated management of this pest on their farms.

"There are few effective options for the management of lettuce aphid in Australia," said Philllip Frost of Serve-Ag Research in Tasmania. "And many growers regard Confidor as the most effective and reliable

control method." By using Confidor as directed on the permit (PER 7416) aphids are completely controlled through until harvest.

"It's necessary for growers to have good management strategies, whatever control methods they are using because the lettuce aphid, given the right conditions, can build up quickly," Phillip said.

As this proliferating pest hides in the very heart of the lettuce, it is impossible to control by traditional crop protection strategies, and avoids detection by the most observant human eye.

Confidor was used in Tasmania during the initial outbreak on an emergency use permit. Now there is a push for wider permit use, with some growers pointing to the success of Confidor in New Zealand where the aphid is now largely under control.

"But we need more local Australian information before we can gain registration of Confidor for use on lettuce," Phillip said.

"The trials we have conducted to date have been extensive and the objectives have been to evaluate potential rates and application methods for Confidor use in lettuce production. We have also done residue studies.

"That work has largely been completed and in 2006 we are going through the process of verifying our findings."

The application of Confidor as a seedling drench allows effective control of aphids

with minimal effects on non-target species. Unlike the broadcast application of some insecticides, the targeted application of Confidor to seedlings means that the aphids ingest it when they suck the sap from the lettuce plant, but non-sap sucking insects do not come into contact with the product.

In trials, predatory insects such as ladybirds and lacewings were found in Confidor treated lettuce, however their numbers were lower than untreated aphid infested lettuce, due to the lack of aphids as a food source.

"Many growers are now using Confidor with good results," he says. "The current permits will be in place until registration can be obtained."

Grower consultation has also been a significant aspect of the study, and extension activities have included meetings where lettuce growers could provide feedback, share information and air grievances and concerns.

"However the main focus of extension activities in the future will need to be directed at the nurseries where they treat the seedlings with Confidor in the first place," Phillip said.

"Consumers and food chains need education too, because they often place unrealistic expectations on growers, expecting them to produce lettuce without even one aphid."

The research has been carried out for the past 12 months in Tasmania, as well as on the mainland in Victoria and Queensland.



# **Controlling lettuce aphid**

Controlling lettuce aphid, *Nasonovia ribisnigri*, should be a multi-layered approach, with the use of Confidor just one of many approaches to dealing with this pest.

Other research is looking at developing lettuce varieties with built-in aphid resistance.

The two-year study is due for completion this year and it is expected that Serve-Ag Research's findings will be submitted for the registration of Confidor. The full report will be available to growers by August/ September this year.

#### The bottom line:

- Confidor seedling drenches have been trialled as an effective means of lettuce aphid control.
- Confidor registration is being sought.
   In the meantime, APVMA permit 7416 is in place.
- Extension activities, including consumer education about lettuce aphid, are critical to long term management.

i

For more information: Visit www.ausveg.com.au/levy-payers/login.cfm Project Number: VG04068 Keyword: Lettuce Aphid, Confidor

## Management options for lettuce aphid may include:

Source control (contaminated product or seedlings)

Transfer of lettuce aphid from contaminated properties can be avoided by ensuring that nursery suppliers have a management plan in place for the control of lettuce aphid. Avoid movement from other plant material by avoiding second-hand boxes or transport containers.

 Nasonovia-resistant lettuce varieties

Some seed companies have developed a range of lettuce varieties that carry a resistance gene to currant lettuce aphid. Referred to as 'Nas-resistance', these lettuce varieties appear to prevent the currant lettuce aphid from feeding, reproducing or proliferating. However it must be noted that other aphid species may continue to attack the lettuce.

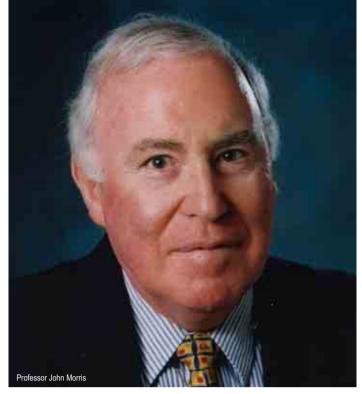
 Biologically based Integrated Pest Management

Research has indicated that a range of beneficial insects, including ladybirds and brown lacewings, are natural predators of lettuce aphid. Unfortunately, broad spectrum pesticides tend to destroy natural populations of beneficial insects, so an integrated approach is critical. However, it is felt that an Integrated Pest Management approach may be the best bet for long term control.

 Confidor seedling treatments (APVMA permit 7416)

Seedling drenches (as outlined in the article) has shown effective control of aphids for the life of the lettuce crop. Aphid resistance to Confidor over time is a concern for the industry, and a resistance management strategy needs to be developed.

- Foliar insecticides sprays in open lettuce or prior to hearting
- Sanitation (control weed hosts, bury infested lettuce)
- Postharvest washing



# Sadly, it's not enough just to produce the best vegetable ...

Susan Hudson finds out about a sucessful program which aims to extend knowledge about management practices in the produce industry.

For vegetable producers today, it's not simply a matter of growing the best crop possible. There's a whole lot more to address - if Australian growers want to compete at a national, or even an international, level.

Fortunately one of Victoria's eminent tertiary institutions offers a highly successful program to extend knowledge about management practices in the produce industry.

Monash University's Annual Produce Executive Program (PEP), now in its fifth year, is calculated to provoke and educate the next generation of industry leaders. The next program (28 May-2 June) will cover four core options: understanding consumers and markets; international and domestic marketing; effective strategy development and best practices in produce business management.

While at a superficial glance these topics might seem dry, the lectures and seminars certainly aren't, with a crammed program that includes faculty members and business people at the forefront of their sectors.

According to the founder and director of Executive Programs, Professor John Morris, who has designed and directs PEP, the week long course will allow participants to debate, and learn about, the key issues in the produce industry as well as interact with industry leaders. John will share the podium with visiting UK professor, David Hughes, on the topics of international and domestic marketing.

"We will be discussing successful produce marketing, both domestically and in export markets, the role of brands in produce marketing, the difference between labels and brands, how to develop an effective brand strategy amongst other vital issues for growers," said John, who has extensive experience in retailing and food marketing at a global level.

While at a superficial glance these topics might seem dry, the lectures and seminars certainly aren't, with a crammed program that includes faculty members and business people at the forefront of their sectors.

Several case studies will be discussed and provide basis for working groups, with Professor Hughes offering examples of new market-driven businesses, like the successful fresh herb enterprise he established in the USA. He will show how to manage a business from conception to realisation, including growing the business and managing the supply chain. Another case study will cover Europe's leading strawberry grower at Kentish Gardens, and define the key elements of that successful business as well.

Guest speakers during the week will include Michael Batycki (Woolworth's senior business manager, produce), John Glover (Metro Cash and Carry, Vietnam), Michael Simonetta (CEO, Perfection Fresh Australia), Gavin Scurr (Pinata Marketing Australia) and David Matthews (Proteaflora Nursery).

Another topic sure to be popular is 'creating innovation' with program faculty member Lisa Smith of the Minds at Work problemsolving company. Lisa, who will challenge participants to open up their creative thinking channels, has worked with crack police response teams, fire fighters and the SES.

Other topics will include 'managing and motivating people' (Melinda Muth), 'understanding distribution channels and markets' (Martin Kneebone), 'succeeding in export markets' (John Glover) and 'strategies for growing the business' (Angus Taylor).

"It's a full, useful, current and exciting program that progressive growers shouldn't miss," John said.

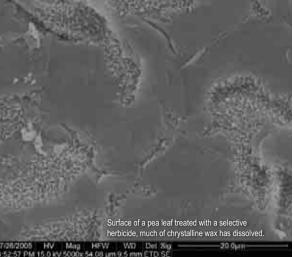
Scholarships will again be offered in May 2007 and May 2008 when very similar programs, adjusted to the current issues of the industry in those years, will be offered again.

Anyone hopeful of joining the 2006 course should contact the Program Manager immediately as cancellations and changes always occur at the last minute and there might just be a place available.

i

Brochures and application forms from Program Manager Jade Neergaard, Faculty of Business & Economics, Monash University PO Box 527 Frankston Vic 3199. Phone (03 9904 4172 fax (03) 9904 4113 or email: seminar\_manager@yahoo.com.







Source: Biocontrol Australia Pty Ltd.

# Leaf diseases in the spotlight

Leaf wetteners in conjunction with pesticides have long been used for treatment of leaf diseases. But, as Simon Adams found out, questions are now being raised on how effective they are.

Evidence that onion diseases of foliage such as onion neck rot (*Botrytis allii*) may be enhanced by application of leaf wetteners has lead to a two-year study of the effect of herbicides and wetteners on vegetable foliar diseases.

Thinner leaf waxes that have been partially dissolved by leaf wetteners may be more easily penetrated by the diseases.

The study, currently being undertaken by Dr Dean Metcalf of Biocontrol Australia Pty Ltd, is initially focusing on the effect of a wide variety of chemicals on pea and bean foliar diseases, but will also be examining effects on Brassica diseases.

"Some of the chemicals tested significantly increase the germination of *Botrytis cinerea* spores on pea leaves in controlled experiments, but field trials are presently investigating this further," Dean said.

The study is presently working on grey mould (Botrytis cinerea) which can be an important disease in many vegetable and horticultural crops, but many other diseases such as Aschochyta or downy mildew could be encouraged by the same mechanisms.

The list of chemicals which have been screened include the herbicides sethoxydim, fluazifop-p, metribuzin, bentazone sodium, cyanazine, MCPA, and a range of vegetable oils, mineral oils and leaf wettening agents.

Sometimes mineral oils, vegetable oils or wettener surfactants are applied with fungicides, insecticides and herbicides to improve the coverage of the crop with the chemical, by spreading the spray droplets more thinly on the plant surface so that the largest possible surface area is exposed to the chemical.

Some leaf wetteners and selective herbicides that are applied to vegetable and horticultural crops can damage the structure of the leaf waxes, which provide a natural defence barrier against many foliar diseases.

Thinner leaf waxes that have been partially dissolved by leaf wetteners may be more easily penetrated by the diseases. Chemical damage to the foliage may also increase infection by foliar disease spores through the wounded plant surface, or by retaining moisture which encourages spore germination.

Dean has indicated that it may be possible that many expensive fungicide sprays would not need to be applied if leaf waxes were not damaged in the first instance.

"In most cases the manufacturers of selective herbicides and leaf wetteners take great care to ensure that any agrichemical product which is applied to the crop has only beneficial effects," Dean said.

"However, there are occasions when combinations of herbicides or wetteners may be applied at different stages in growing the crop, which may be outside the recommendations of the manufacturer," he said.

Peas and beans are thought to be more likely to suffer from foliar diseases due to the plant leaves growing close together, forming a humid, almost airtight canopy over individual plants.

Warm, moist environments with little or no airflow are a prime breeding ground for diseases caused by fungi.

Results of the chemical testing and any recommendations to reduce the incidence of foliar diseases in vegetables will be made available to growers upon completion of the project in 2007.

#### The bottom line:

- Leaf wetteners and selective herbicides are found to contribute to foliar diseases in onions, peas and beans.
- Some wetteners are found to damage leaf structure, making plants more susceptible to moulds and fungi.
- Moisture and airflow are also found to contribute to disease.



For more information: Visit www.ausveg.com.au/levy-payers/login.cfm Project number: VG04026 Keywords: Leaf mould, wetteners





#### Exotic tomato disease hits South Eastern Queensland

The recent detection of yellow leaf curl virus on vegetable crops in the Brisbane area in March has re-invigorated efforts to control this exotic disease affecting tomatoes, as well as other vegetables and ornamental plants.

# It is hoped that the virus has been contained.

Tomato yellow leaf curl virus (and its close relative the tomato leaf curl virus) belongs to a family of viruses called geminiviruses. These viruses are not transmitted by seed, soil or by handling. Instead, the viruses are typically transmitted between plants by an introduced silverleaf whitefly species, *Bemisia tabaci* biotype B.

Yellow leaf curl virus, previously unseen in Australia, typically affects tomatoes, however the disease is known to also affect capsicum, French beans and a range of tobacco crops.

Tell-tale signs of the tomato leaf curl viruses include stunted growth and upward curling of leaflets. Leaves are often bent downwards, but are stiff rather than limp as with wilted plants. Flowers may wither, and fruit, if produced at all, are generally small, dry and unsaleable.

Chris Adriaansen, Queensland's Department of Primary Industries and Fisheries (QDPI&F) general manager of Plant Biosecurity, has indicated that the Brisbane outbreak is likely to be attributed to an increase in whitefly populations in the area.

"A small number of infected plants have acted as a source for whitefly to spread this virus across numerous properties in the area, and will continue to spread the problem,

unless both the whitefly and the virus source are brought under control," he said.

Whitefly control strategies may include a range of chemical pesticides, selected specifically for the developmental stage of the whitefly population causing the infection. However growers are encouraged to undertake an integrated pest management approach to the control of whitefly populations, including management of weeds which may attract whitefly, and cleaning up of crop residues.

Since detection of the virus, Queensland DPI&F have acted to establish a quarantine zone around the infected farms. At this stage, no trace of the virus has been found in commercial nurseries supplying seedlings to the industry, and it is hoped that the virus has been contained. Despite this, little hope is held for the complete eradication of the virus.

"Eradication of yellow leaf curl is unlikely to be possible, as the virus appears to be well established in both crops and weeds, which will act as an ongoing reservoir for the virus," said Chris.

"Control measures focusing on the reduction of both virus and whitefly loads will need to become part of normal industry crop protection practices in affected areas to limit the rate of spread to other parts of Queensland and interstate.

"Producers and nursery growers in all production districts should implement effective yellow leaf curl disease and whitefly management practices as soon as possible," he said.



For further information on how to control yellow leaf curl virus, please contact your local DPI.

Researcher profile **Dr Pauline Mooney** 



Driving
SARDI into
the future

A scientist who joined the South Australian Research and Development Institute (SARDI) team less than a year ago is now playing a key role in moves to give the organisation more commercial and industry focus. Graham Gosper speaks to Dr Pauline Mooney.

Dr Pauline Mooney was appointed SARDI Director of Research & Development in September 2005. Since then, along with SARDI Executive Director Dr Rob Lewis, she has become the driving force behind a major strategic planning review aimed at developing a clear market position for SARDI based on industry relevance. High on the agenda is the identification of science programs that reflect core and future focused business development opportunities for SARDI over the next ten years.

"As well as validating a wide range of SARDI activities as relevant and future focused, the review is giving us the opportunity to lift a couple of new or developing areas of science out from under existing programs. That has given them a place in the sun to flourish or wilt – as the case may be."

"We have reviewed SARDI science in the context of current space and future opportunities as these relate to the SA State Strategic Plan, to the strategic plans of our industry partners and to the national and global science community," Pauline said.

"As well as validating a wide range of SARDI activities as relevant and future focused, the review is giving us the opportunity to lift a couple of new or developing areas of science out from under existing programs. That has given them a place in the sun to flourish or wilt – as the case may be."

The SARDI review has been carried out through a hectic program of 12 strategic planning workshops between October 2005 and February this year. With the limited time frame and the enormity of the task it soon became a way of life for Pauline and some of her colleagues. But she said she enjoyed the challenges and her experience of the past 11 years has provided an ideal grounding for her role with SARDI.

The 46-year-old mother of three has a diverse science background covering genetics, microbiology, pathology, phycology (study of algae), plant physiology and molecular biology. She has worked and studied in New Zealand, South Africa and Australia and is experienced across a wide range of tropical, subtropical and temperate crops. Pauline completed a Bachelor of Science (Hon) and Master of Science in South Africa, and a PhD majoring in molecular biology with Sydney University.

She has held a number of science leadership positions across a diverse range of disciplines – from plant breeding and pre and post harvest physiology through to gene technologies and bioengineering. In New Zealand she was with the commercially focused research institute, HortResearch, where she was responsible for about 300 staff involved in a variety of pursuits including plant breeding and horticulture.

Pauline has high hopes for the outcomes of the SARDI review which she said would also deliver significant benefits for all its industry partners including vegetable growers. "It should result in better communication between researchers and a more holistic approach, rather than projects being carried out as discrete entities," she said. "That will provide the type of "big picture" research that can be invaluable in the fight against pests and disease."

Above all, Pauline said, the review would result in delivery of high quality, relevant research that will enable industry players to make informed long-term decisions and to plan for a prosperous future.

# Ute Guide to promote healthy Australian soils

A handy new guide promoting soil health has been developed specifically for vegetable growers to assist productivity and profitability. Youna Angevin-Castro reports.

A new portable resource will help vegetable growers across Australia to manage and monitor their soil in an effort to promote and restore soil health.

The Soil Interpretation Ute Guide is a pictorial reference guide which aims to assist vegetable growers to measure and record the health of their soil, and to put into place practices which will encourage sustainability, productivity and profitability.

AUSVEG's Environmental Manager Helena Whitman believes that the guide is a valuable resource, as it has been tailored to the specific needs of vegetable growers.

"Growers will be able to make soil management decisions based on scientific evaluation instead of trial and error."

"Historically, there has been little information of specific relevance for vegetable growers. Many growers have a general understanding of their soil, however they are always looking for ways to enhance production and profitability for their businesses, without degrading the sustainability of their soil," Helena said.

The guide, which is designed to be carried around in the car or tractor, will cover the soil types in each vegetable growing region nationally, with pictorial references to assist growers to determine if there is a problem in their soil, and how to address the problem. The guide will also provide information on interpreting data and soil readings so that growers can more easily understand and take the appropriate measures from soil test results.

Principal researcher Dr David McKenzie, an expert in soil management and research, has worked closely on the development of the guide, and is keen to highlight the importance of healthy soils for sustainable vegetable growing.

"By providing growers with an understanding of the soil management issues in their region and assisting them to adopt

practices that improve soil health, growers will be able to make soil management decisions based on scientific evaluation instead of trial and error," David said.

"This will ultimately result in better productivity, more efficient utilisation of soil, reduced input costs and ultimately a healthier more sustainable soil profile that will increase the productive life of the farm."

In conjunction with the guide, growers will also have access to an instructional CD/DVD. This resource will be ideal for time-poor growers, as well as for growers with non-English speaking backgrounds, as the CD/DVD will have practical demonstrations and images that can be viewed or verbal descriptions that can be listened to, assisting those growers that have either literacy or language difficulties.

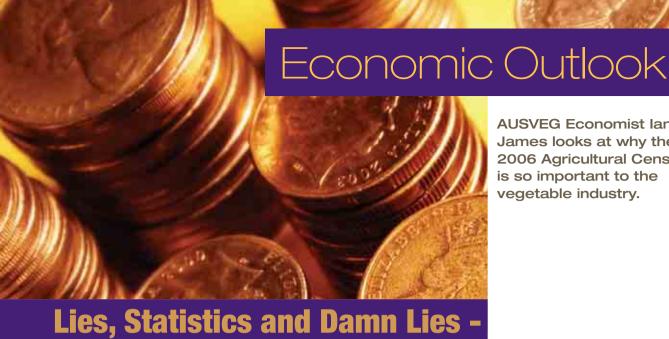
A Soil Interpretation and Management Course, to be offered following the launch of the Ute Guide, will also assist vegetable growers in all states to learn about their

ealth, growers aggement decipluation instead shuation of the soil and to select the appropriate crop types for the soil with the least impact on the broader environment. This course and in-field demonstrations will build on the information contained in the Ute Guide.

"The Ute Guide, in conjunction with the CD/DVD and courses will provide growers with the latest information, specifically designed for the vegetable industry, in a format that is "useable", and thereby encouraging successful adoption of Good Agricultural Practice with respect of soil and land management," Helena said.



The Soil Interpretation Ute Guide will be launched at the Australian Vegetable Industry Conference in Brisbane. For more information about the guide, or the Enviroveg program, contact Helena Whitman on 0409 535 051.



the 2006 Agriculture Census

**AUSVEG Economist Ian** James looks at why the 2006 Agricultural Census is so important to the vegetable industry.

An Agricultural Census will be conducted on June 30 this year. You're probably thinking...not another bureaucratic piece of red tape. However this Census is vitally

important for our industry. It presents a once in a lifetime opportunity to give our industry the due respect and regard that it needs.

#### What is the Agricultural Census?

The Agriculture Census is conducted every five years and provides statistical information on the agriculture industry. It is conducted by the Australian Bureau of Statistics (ABS) the official agency for the collection of statistics for the Federal Government. In between the five year census, annual surveys are conducted based on the data provided in the census.

#### Garbage In, Garbage Out?

The official statistics on the vegetable industry are at best grossly inadequate, and at worst downright misleading. In many cases little attention has been paid to getting the figures right. Growers have been given no explanation as to how important their input is in providing the statistical background to decision making by government.

Some growers may harbour suspicions that the information might be used by other government agencies such as the taxation office or immigration department to target individual growers. However, this is not the case. The information provided is aggregated together to provide a snapshot of the

industry, and where such aggregation may endanger confidentiality no data is released.

Part of the fault lies with the ABS and a cutback in government funding. In the past, census questions have been poorly structured and no adjustments have been made to reflect changes in the industry. For example, there has been no scope to capture the growth in the planting of new vegetables or the growth in undercover planting of traditional vegetables. The consequence has been a collection of official data which provides little detail on the industry and data which most growers believe is inaccurate.

#### AUSVEG is looking to get it right

AUSVEG has been working with the ABS for the last eighteen months to try to improve the data collected in the Agriculture Census. This has been an enormous effort. AUSVEG has attempted to steer a balance between the need for more detail and preventing the form from becoming too long. Growers will notice that there has been a substantial expansion in the range of vegetables covered. Some of you have been involved in trial runs of the new form and the feedback has been favourable.

The Agricultural Census is an integral part of an overall strategy by AUSVEG to collect better data on the vegetable industry. We now have much better statistics on imports and exports and we are working with growers and various groups in the supply chain to pull a range of data together.

The Agricultural Census represents your chance to contribute to rectify the poor data available on the industry. If we don't get it right this year we have to wait five years for another chance.

#### Why bother?

Government, economists, researchers and all interested parties use the official data to comment on the industry. The poor data on the vegetable industry is holding the industry back and seriously impacting on our political clout. The official statistics seriously underestimate vegetable plantings, production and employment in the industry. We do not have adequate regional statistics on the vegetable industry. Data inadequacy makes it difficult for us to argue the contribution the industry makes to input industries e.g. fertiliser, seed, chemical companies or to output industries e.g. transport, wholesalers, financiers. Hence the importance of the industry can be lost on policy makers.

For example, Question 7 on the Agricultural Census, which asks for the address of your farm, is vital for adequate regional analysis. Providing this is correct we will be able to provide policy makers with information showing size of vegetable plantings, the range of vegetables grown, total production of vegetables and employment in a given region. This is of enormous importance in showing how significant the industry is to a region. It provides clout in arguments over a broad range of policy issues ranging from water to processing contracts.





# AUSVEG responds to FSANZ feasibility study on CoOL

Consumer choice is not valid, according to a recent Food Standards Australia New Zealand (FSANZ) study, when measuring the value of having clear country of origin labelling on packaged vegetables.

"The report is all about costs. Enormous, unrealistic measures of cost to companies from having to change labels on their packaging. But very little calculated on the benefits," Michael Badcock, AUSVEG Chairman said.

"Why should cost to the manufacturer always outweigh consumer choice? If you want to buy products from Australia you should be able to make that choice."

The FSANZ study found that country of origin labelling on packaged food would cost in the vicinity of \$120 million.

"I can't see how the costs would be that high. Modern and efficient manufacturing businesses use the latest technology. "Companies use computers more often than the old plate system for printing, taking seconds not hours. And they change labels all the time anyway for batch numbers," Michael said.

"Why should cost to the manufacturer always outweigh consumer choice? If you want to buy products from Australia you should be able to make that choice," he said.

AUSVEG suggests that a way to address this issue is to draft a separate Trade Practices Act legislation for food.

"The current Trade Practices Act lumps everything in together, from furniture to frozen food.

"By separating food out, it would be easier to have strong country of origin labelling that gives consumers the information they have the right to know," Michael said.



AUSVEG's response to the country of origin labelling feasibility study commissioned by FSANZ can be found on www.ausveg.com.au



### In the media

## Pesticides come under fire in CHOICE magazine

CHOICE magazine (April 2006), published by the Australian Consumer Association, recently published a report on the levels of pesticides in Australian fresh fruit and vegetables.

As well as providing an overview of the potential risks to consumers associated with the use of pesticides, the article suggested that little testing was done on both local and imported produce to ascertain whether chemical pesticide levels were within safe parameters for human consumption.

The article called into question the efforts of both the Australian Quarantine Inspection Service (AQIS) and State governments in providing adequate testing of produce samples, particularly those products which find their way onto the fresh fruit and vegetable displays of retail outlets and supermarket chains.

While the Australian vegetable industry works very hard on its reputation for producing 'clean and green' produce which abides by the Food Standards Code, there is no doubt that more regular testing for pesticides, particularly on imported produce, would be a move supported by the industry.

# **Private labelling confusion?**

Recent news reports in the Weekly Times (Melbourne, 19 April 2006) indicated that shoppers were rejecting supermarket house brands, despite a push by major retailers Coles and Woolworths to introduce private labels onto their shelves.

The article, based on an ACNielsen report on private labels, reported that 'household spending on house brands has stalled at \$494 a year' and that supermarket housebrand sales have 'fallen from 15 per cent in late 2003 to 14.5 per cent last year'.

"Aldi has certainly been the driving force behind growth in Private Label over the last year," says Aaron Cross.

Yet the ACNielsen report also indicated that independent retailer Aldi is driving private label growth in Australia, and that Aldi stores across Australia are experiencing an increase in the number of shoppers visiting its stores and a substantial increase in the amount shoppers are spending in-store.

Aldi's private label products now command an overall value share of 18 per cent of total packaged grocery in the quarter ending December 2005 – a 2.3 share gain versus the same period in 2002 – and the ACNielsen report suggested that Aldi was the key driver behind this gain with private label share of grocery for other retailers flagging over the last three years.

"Aldi has certainly been the driving force behind growth in private label over the last year," says Aaron Cross, Director, Retail Client Service, ACNielsen Australia. "It must be noted, however, that with new branding strategies for major retailer private label brands rolling out in coming months it is expected that these will have a more pronounced impact throughout the course of 2006."



# Banks' battle for the rural sector hots up as farmers reward personal service

Australia's 'big four' banks (Commonwealth Bank, Westpac, National Australia Bank and ANZ) hold banking relationships with at least one in four farm business operators, with National Australia Bank (NAB) maintaining the lion's share (35 per cent) of agribusinesses, says research company ACNielsen. But the smaller banks are hot on the heels of the big players, with rural specialists Rabobank, Elders and Landmark having been the most successful in securing new agribusiness clients in the past 12 months.

These and other findings were part of ACNielsen's first Australian agribusiness survey, released in March, which collected responses from 2,170 Australian farmers on their attitudes towards their banking providers.

The survey findings highlighted a strong link between client satisfaction and the level of personal service received from banking providers – banking clients who were

allocated an account manager who visited them personally were the least likely to consider switching banks.

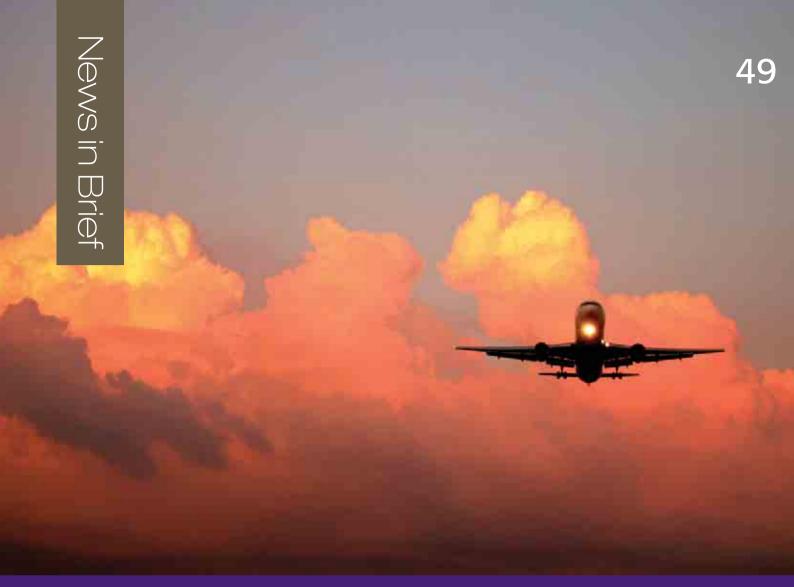
Rabobank and Elders led for customer satisfaction with the overall quality of account management, with over 90 per cent of current clients satisfied with their service – more than 20 percentage points above the average satisfaction level across all banks.

"The success of Rabobank and Elders can, in part, be contributed to the depth of relationship formed with clients through adopting a more personal approach," says Glenn Wealands, Associate Director, Finance, ACNielsen Australia. "As competition in the agribusiness sector hots up, there's increasingly good news for farmers, and we're seeing many banks – whether local, national or global – investing in delivering better and more relevant products and services which match the needs of their agribusiness clients."

Looking at dissatisfaction levels, around one in five farmers said they would 'probably' or 'definitely' review their main bank provider within the next 12 months. Of those who had recently switched providers, the primary drivers were competitive rates/fees; broad range of banking products; and the bank's level of understanding of farming.

According to the survey, farmers tended to be less satisfied with their current bank in the areas of competitiveness of fees and lack of provision of useful information about economic/business conditions. In addition, there were pockets of dissatisfaction with the level of provision of competitive interest on business accounts; willingness to customise services; and provision of relevant products and services.

Reputation of good service and word of mouth were noted as being the primary reasons banks were in the consideration set of those farmers who were looking at switching providers.



# \$10,000 Young Vegetable Grower Tour to the USA

# - calling for nominations

Are you or do you have working for you, a young vegetable grower (18-35 years) that could benefit from the knowledge and experienced gained in an opportunity of a lifetime?

Joining five progressive young New Zealand growers the tour leaves Sydney on the 14 October 2006 and returns on the 27 October 2006 and includes attendance at the Produce Marketing Association's (PMA) Fresh Summit conference in San Diego, California. The world's largest fruit and vegetable event.

Numbers are strictly limited and a maximum of eight Australian candidates

can be accepted. The total cost for a participant for the entire tour including, airfares, accommodation, conference registration and all transfers to and from Sydney is \$10,000.

However, thanks to the support of the National Vegetable Levy and the Australian Government, the cost per participant is only \$2900. Potential candidates may be sponsored or contribute the money themselves.

To be eligible candidates must pass selection criteria. An experienced tour leader will accompany the group from Australia. And it isn't all work; we have managed to squeeze in a visit to Disneyland.

Nominations close on the 30th June 2006.



For more information including full tour itinerary visit www.ausveg.com.au or call AUSVEG on (03) 9544 8098.

# New Products

# **Dow Agrosciences releases Success2**

Dow AgroSciences has announced the release of Success\*2 Naturalyte\* Insect Control.

# ws in Brief

## Agricultural Census: coming to Australian farms in 2006

Fruit and vegetable growers should be aware that the Agricultural Census will take place in June 2006.

The Agricultural Census is Australia's biggest collection of agricultural statistics. It is conducted by the Australian Bureau of Statistics (ABS) every five years and collects production data from primary producers around the country.

Gemma Van Halderen, Head of the Agricultural Program at the ABS, says it is beneficial for farmers from all industries to take part in the Agricultural Census because the data provides important information about agricultural production across Australia.

"We strongly encourage people to complete their Census forms because the information they provide can assist people such as policy makers and industry bodies to make informed decisions about the agricultural sector that could affect them and their industry," Gemma said.

"The data from the Agricultural Census helps Australia understand changes that have occurred in the sector to measure the contribution that agriculture makes to the economy."

The Agricultural Census forms are sent through the mail. Forms will arrive by the end of June. Farmers are asked to complete the forms and return them within two weeks. Assistance will be available through a help line that will be printed on the form.

Registered for use in over 85 horticultural crops, including cucurbits, sub-tropical fruits, tropical fruits, mangoes, berries, forestry as well as some ornamentals, fruit and vegetables not previously registered on the original Success label, Success2 can be used as part of any of the Integrated Pest Management (IPM) programs that growers may be running run in their areas.

Daniel Dixon, Insecticide Product Technology Specialist for Dow Agro-Sciences Australia Ltd outlined the benefits of using Success2.

"Success2 offers excellent control of key caterpillar pests with a high level of safety to beneficial insects making it the ideal choice for growers adopting IPM practices. The exceptional environmental profile of Success2 and corresponding short withholding periods and harvest intervals will continue to give growers access to lucrative export markets," he said.

Daniel added that consultants and growers will need to become familiar with the new use rates that correspond with the new formulation and new registrations. He said that Dow AgroSciences staff will work closely with the distribution network and private consultants and would be producing literature to assist growers and others in making the transition to the new formulation.

# Important label expansion for Nufarm's key fungicide

Nufarm's liquid protectant fungicide Penncozeb 420 SC is now available to vegetable growers an alternative treatment for the control of a range of plant diseases.

These include the control of bacterial disease and powdery mildew in tomatoes, as well as the control of downy mildew in cucurbits. The fungicide is also registered for use in pumpkin, squash, cucumber, rockmelon, honeydew and watermelon.

"Australian potato growers have been using Penncozeb 420 SC for more than eight years," said Guy Perriman, Nufarm's Australian Horticulture Manager.

"With these new registrations, we hope to see many more growers benefiting from the features this formulation has to offer."

These latest label additions were approved by the APVMA in January 2006, and form part of an ongoing project focused on the continued devlopment of Penncozeb 420 SC for a wide range of vegetable crops, including carrots, green beans, onions and brassicas.

#### **New South Wales**

#### **Lettuce Aphid Update**

100 NSW growers gathered to hear how the presence of Currant Lettuce Aphid would affect their businesses last month in Penrith. Speakers from Bayer, NSW DPI. VIDO NSW, Rijk Zwaan and AHR gave a comprehensive overview of issues growers needed to address. Given the already widespread identifications of the pest across the Basin, a decision was made by the Minister to drop the Proclamation affecting Sydney Basin growers. The consensus of the meeting was one of getting down to business and using the appropriate management tools to do so. The only issue to be resolved was the extension of the current Confidor permit to NFT recirculating hydroponic production. Thankfully this has now been covered and as such Confidor is now available to the hydro grower community for use against lettuce aphid. Details of the permit and interstate trade protocols are available on the NSW Farmers' Association website at http://www.nswfarmers.org.au/commodities/horticulture

#### ABARE Report on Vegetable Industry **Competitiveness**

The Association has serious concerns about some of the data and the conclusions drawn in the finalised report by ABARE. The most worrying aspect of the survey data was the fact that the third largest state in terms of vegetable production was not even included in the survey. Once again it highlighted the need for our own industry to fund comprehensive studies which arrive at a more accurate stock take of each state's vegetable industry demographics.

Luke Jewell Senior Policy Analyst **NSW Farmers Association** 

Growing the Business



Address: Level 10, Elizabeth St Sydney NSW 2000

Tel: 02 8251 1885 Fax: 02 8251 1752 Contact: Luke Jewell

#### **Tasmania**

#### **Our Country Hospitality**

With John Roach and Ian James visiting from AUSVEG, Ian, Lesley and Matthew Young opened up their garden and BBQ for a gathering. This function gave John and lan the opportunity to talk with growers at the grass root level. Prior to the BBQ, lan and John had met at TFGA offices with the CEO. President and Executive Officers. After the BBQ they attend the Vegetable Council meeting, and stayed at Ulverstone. The following day, they met with representatives from DPIWE, Harvest Moon and Simplot Australia. Incoming chairman. Brian Bonde, hosted John, lan and Stephen Welsh to lunch at his property at Ulverstone.

#### **Hemp Industry Forum**

A successful forum was held at Aurora Stadium, Launceston on 28 March, facilitated by Alan Johnston of DPIWE. Various speakers who enlightened the gathering of 30 on the background of the hemp industry, included Peter Simmul, (DPIWE), Phil Warner, (Ecofibre Industries Ltd), Brandt Teale, (Hemp Co-operative of Tasmania), Adrian Clarke, (Fibre Laboratory Pty Ltd), Fritz Harmsens (Tasmanian Hemp Co), and Terry Stuart (Poppy Advisory Board). After listening to the industry comments, workshops identifying opportunities for hemp product development in Tasmania were held, discussing the barriers, and need to overcome these barriers.

The final outcome, resolved in a TFGA Hemp Industry Task Force being established, consisting of Denis Leonard (TFGA), Nigel Burch (Government representative), Michael Hart (DPIWE), Michael Bayles (grower), Shaun Lisson (CSIRO), Alister Mackinnon (NRM North Landcare) and Brandt Teale (Industry Representative). This group will hold their first meeting at Ross on April 28, 2006.

#### Tasmanian Vegetable Industry Strategic Plan

The Steering Committee for the TFGA Vegetable Council driven Industry Strategic Plan met for the first time on Wednesday 5 April at Elizabeth Town. Although the first meeting was behind the original scheduled time frame, it has come at an appropriate time and will allow for close alignment with the National Planning group chaired by Richard Bovill.

The Tasmanian Steering Committee is chaired by Bob Wilson from Classic Foods and comprises, Peta Sugden (Dept of Economic Development-DED), Anthea Pritchard (Boags), Mike Gaffney (Gaffney Machinery), Brian Bonde, Ian Young, Michael and Ray Hart (DPIWE), Neil Armstrong (Harvest Moon). Peter Wise (Tas Independent Retailers), Les Murdoch (McCain), Richard Bovill, Kaye Preece and Denis Leonard.

This group represents vast experience in across industry management, marketing and opportunistic abilities and change management.

A brief will be drawn up to allow for advertising and the appointment of a consultant to implement and drive the strategy in close collaboration with the national consultants.

**Denis Leonard Executive Officer TFGA** 



Address: Cnr Cimitiere & Charles Streets Launceston TAS 7250

Tel: 03 6332 1800 Fax: 03 6331 4344 Contact: Denis Leonard







### Around the States

#### Queensland

Fortunately very few vegetable growers were affected by the devastating Cyclone Larry that left the far north of the state in disarray. While the vegetable industry was not directly affected, the destruction to fruit industries, such as bananas, papaws and tropical fruits may well have flow on effects for the wider horticulture industry and the communities they sustain. They recovery will be long and difficult. Jack Milbank traveled to Mareeba during April to assist in identifying alternate opportunities for shorter term crops to fill the gap in production of some of the other longer term crops.

The other major issue in Queensland was the confirmed identification of Tomato Yellow Leaf Curl Virus (TYLCV) which is an exotic pest that has never previously been found in Australia, TYLCV is different to TLCV which has been in FNQ and the NT previously. The virus, whose host range includes a number of solanaceous crops with tomatoes being the most susceptible, is transmitted by the whitefly (Native and SLWF). So far the virus has been contained to south west Brisbane shires.

On a more positive note, a number of researchers have submitted very promising applications to the Extraordinary Vegetable call and we wait in anticipation for the opportunity for the experts in the state to deliver on these proposals to take the vegetable industry forward according to its new vision to be launched this month.

Jan Davis CEO Growcom



together we grow

Address: Floor 1, 385 St Pauls Terrace Fortitude Valley, QLD 4006

Tel: 07 3620 3844

Fax: 07 3620 3880 Contact: Jan Davis

#### **South Australia**

#### SA Grown Launch

Consumers shopping at selected Foodland stores now have the choice of purchasing certified SA Grown produce. The initiative between the VHC, Adelaide Plains growers and Foodland retailers was officially launched on the 26 April.

Six Foodland stores are participating in the trial of SA Grown branded produce, with another store to begin this week. Growers have worked together for a number of months developing packaging, labelling, and product developments to ensure products supplied meet the quality and business practice standards that are a requirement of the SA Grown Brand.

The VHC, through Sustainable Regions funding, has been able to fully support a marketing and promotional program for SA Grown in Foodland stores. The program includes merchandising, radio and TV advertising, community initiatives, ongoing market research and product demonstrations.

Currently 15 product lines are available to retailers, with continual product developments happening now.

All growers involved with the program meet the requirements of a licence agreement which includes responsible farming practices, clean and green quality products, known inputs, food safety standards, professional business management and sustainable natural resource management.

"We encourage any grower in South Australia who produces a totally South Australian product to get involved with this program. It is certainly not limited to vegetables" says Group Operations Manager – Post Harvest. Victoria Andrew.

By being involved in the SA Grown brand program growers have the opportunity to access the market more directly, be involved with marketing and promotional activities and potentially develop profitable new lines for their products.

"Retailers are very excited about this initiative and the opportunity to work more directly with our producers and distributors. They see a huge potential for their businesses in supporting South Australian products through the marketing, merchandising and product development opportunities that support the program."

For more information: Victoria Andrew 08 8282 9200 or 0438 807 255

Mike Redmond General Manager Virginia Horticulture Centre



Address: Old Port Wakefield Road

Virginia SA 5120 Tel: 08 8282 9200 Fax: 08 8380 8950

Contact: Michael Redmond



South Australian Farmers Federation Address: 3rd floor, 122 Frome St

Tel: 08 8232 5555 Fax: 08 8232 1311 Contact: John Mundy

Adelaide SA 5000







#### Victoria

Industry unity is being severely tested over the Australian Government's deliberations and introduction of a Horticultural Mandatory Code of Conduct. To date there have been representative groups from national organisations within the industry debating and releasing media information that would appear to have placed this issue in total confusion.

There should be no exemptions to any Horticultural Mandatory Code of Conduct. To single out trading at central markets as being the only participants is bordering upon restriction of trade. All horticultural produce leaving the farm gate should be subjected to the introduction of this legislation. This means the first point of sale, whether it is a delivery to a packing and distribution centre, direct from farm to retail outlets or to state wholesale central markets. The phrase "one in, all in" certainly applies.

To allow the Australian Government to legislate under the central markets trading only system will provide industry with more nightmares than is alleged by some horticultural producers at the present time.

The movement of Victorian grown produce over the past six months has been relatively slower than in previous years, and prices have been stilted to say the least, apart from a short period of short supply due to summer temperatures in January, followed by the inevitable wind and rain storms.

Mother Nature certainly has an effect on the fate of the horticultural producer, as recently experienced by banana growers in North Queensland.

Recruiting and retaining membership is an ongoing task facing all associations, and the VGA Executive Committee is very aware of receiving industry support from all Victorian vegetable growers. There are numerous important issues to be resolved, not the least being vegetable imports, occupational health and safety on the farm, water supplies, country of origin labelling and the environment. The vegetable industry is reli-

ant upon levy paying growers and the VGA requires your membership in order to have the total support and power to represent vegetable growers on all issues. Membership information is readily available for all Victorian vegetable growers.

Tony Imeson Executive officer VGA



Address: Mail Box 111, Melbourne Markets 542 Footscray Rd, West Melbourne VIC 3003

Tel: 03 9687 4707 Fax: 03 9687 4723 Contact: Tony Imeson

#### Western Australia

Vegetables WA are currently involved in many issues that are impacting on our vegetable growers productivity in Western Australia i.e.

- Our State Water Forum Meetings. Will
  there be wholesale volumetric changes to
  the amount of water used, will this include
  surface water, security of licences,
  regional water plans and water trading etc.
- Shortage of labour. Competition from our mining industry, immigration problems, Visas, are all having an impact.
- Country of Origin Labelling. Interaction with our consumers has certainly been beneficial, working with the government on packaging food products.
- Food Safety. Particularly imported foods.
   Direct consumer contact on this issue is having a positive effect.
- APC Vegetable producers Committee setting of the fee for service, marketing and promotion etc.
- Horticulture Business Code waiting for the major players to make a decision.
   Hopefully one that will be beneficial to the growers.

Jim Turley Executive Officer Vegetables WA



Address: Horticulture House 103 Outram St, West Perth WA 6005

Tel: 08 9481 0834 Fax: 08 9481 0024 Contact: Jim Turley







### Calendar of events

#### **MAY 2006**

#### 8-11 May

#### Enviro 2006

Melbourne Exhibition & Convention Centre.

The Enviro 06 conference & Exhibition is a platform for showcasing the Australian environment industry. Presented by the Australian Water Association and Waste Management Association of Australia & New Zealand in conjunction with the Mayors Asia-Pacific Environmental Summit to be held at the same time and venue as Enviro 2006. More than 6000 people are expected to attend.

For more information, contact: Rosalind Vrettas

**Tel**: 03 9741 4679 **Fax**: 03 9741 4856

Email: rvquitz@bigpond.com Website: www.enviroaust.net

#### 10-12 May

### Australian Vegetable Industry Conference

Brisbane Convention and Exhibition Centre, Brisbane, Queensland

For more information:

Website: www.vegieconf.com.au

#### 12-13 May

#### Murrumbidgee Farm Fair

Yanco, New South Wales

Tel: 02 6962 0950

Website: www.murrumbidgeefarmfair. netfirms.com

#### 28 May - 2 June

#### 4th Annual Produce Executive Program

Monash University, Mt Eliza, Victoria

For more information, contact:

Jade Neergaard **Tel:** 03 9904 4172

#### **JUNE 2006**

#### 1 June

## Produce Marketing Association – Mastering the Supply Chain 2006

Sydney Harbour Marriott Hotel, Sydney

For more information, contact: John Baker

Tel: 02 9744 6366

Email: john@producemarketing.com.au

Website:

www.producemarketing.com.au

#### 1-2 June

#### 7th International Conference on Management in AgriFood Chains and Network

Ede, Netherlands

For more information:

Website: www.chainconference.wur.nl

#### 22-23 June

## AgTrain Program - Victorian Department of Primary Industries

AgVet Chemical Users Course (2 days)

Department of Primary Industries Knoxfield

621 Burwood Hwy Knoxfield

\$215 (GST-free)

For more information, contact:

Karen Green

Tel: 03 9210 9229

Website: www.dpi.vic.gov.au/agtrain

#### **JULY 2006**

#### 13 July

#### Potato 2006

Potato industry forum organised by Simplot Australia focusing on the business of potato production, Ulverstone

#### 15 July

#### **NSW Horticultural Industries Dinner**

Sydney

For more information, contact:

Alison Anderson

Tel: (02) 9746 1865 or 0409 383 003

Email: alison.anderson@bigpond.com

#### 17 July

#### **TFGA Vegetable Council meeting**

#### 25 July

Tasmanian Agricultural Research and Advisory Committee's Annual "Research, Development and Extension Day".

Ulverstone, Tasmania

#### 26 July

#### **TFGA Vegetable Industry Forum**

Ulverstone, Tasmania

#### 27-28 July

#### **TFGA Annual Conference**

Launceston, Tasmania

#### **AUGUST 2006**

#### 2-3 August

## Horticulture New Zealand's 1st Annual Conference

Sky City Convention Centre, Auckland, New Zealand

In conjunction with this Conference, the annual conferences of the Fresh Vegetable, Potato, Fresh Tomato and Process Vegetables Product Groups will be held at the same venue on 4 August.

For further information:

Website: www.hortnz.co.nz



# MegaBin



# Nally. Designed to last longer.

- Solid and Vented Available
- Single Piece Construction
- Self-Palletising Design
- Easy to Clean

- Non-Porous Surface
- Rounded Corners
- No HACCP Issues
- Durable and Sturdy

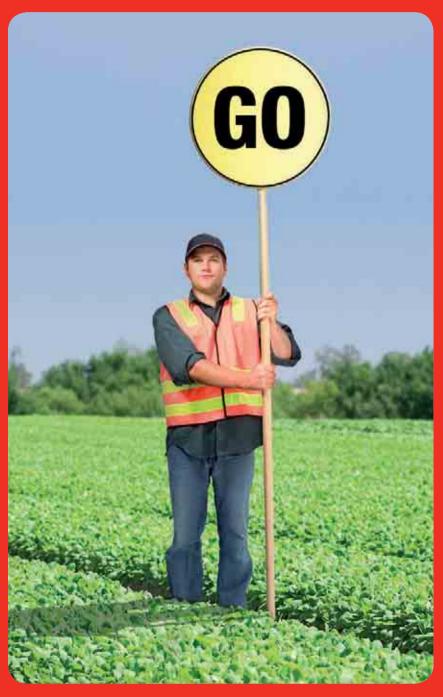
Tipping Bars, Lids and Bungs are available

Free Call Australia Wide

1800 659 075



# Cal-Gran. Your licence to grow fast.



# **Cal**Gran

Now there's nothing stopping you from delivering much needed nitrogen to your crops.

Cal-Gran<sup>™</sup> fertiliser is a low volatile source of nitrogen ideally suited for use on both crops and pasture. Because the nitrogen is in the fast-acting nitrate form, Cal-Gran delivers immediate results. And with the remaining nitrogen in the ammonium form, you don't lose any valuable nitrogen to the atmosphere through volatilisation.

An added benefit is that Cal-Gran is not classified as security sensitive or a dangerous good, so you don't need a licence to handle it.

With Cal-Gran, you and your crops can go and grow as fast as you want.

For details from the fertiliser specialists, contact your local Incitec Pivot Agent or Dealer. Freecall 1800 333 197

www.incitecpivot.com.au



Because the land is your life.