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vegetables australia

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vegetables australia

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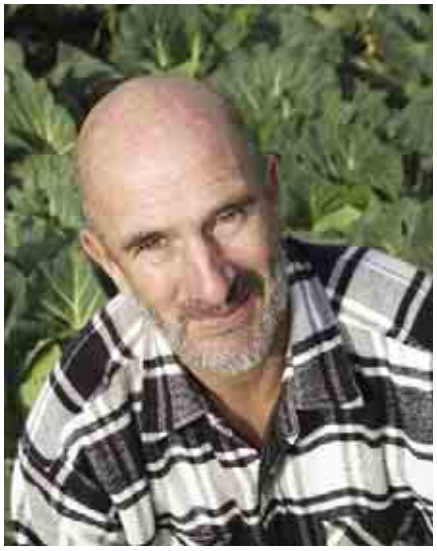


A word from the AUSVEG Chairman

Getting the right information at the right time is critical to any business. In a world that can completely change in minutes, it's important to keep ahead of the pack. But we are also time-poor and finding the balance between information overload and vacuum is difficult.

Two years ago the vegetable industry identified that growers were not receiving the information they needed and set about to change the status quo. A national communications project to address these issues was funded by the National Vegetable Levy and the Australian Government through HAL.

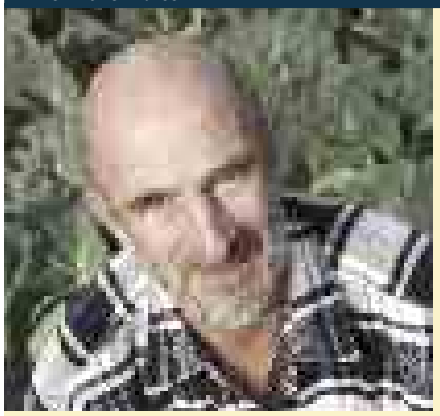
A communications audit found that there were many shortfalls in the industry and that radical changes were needed. In response a number of communications initiatives are being developed including this magazine.

Vegetables Australia magazine will bring important information on vegetable growing to your door. The editorial committee, who oversee this publication, are growers from across Australia and bring a wealth of experience to make sure your needs are met. The magazine will also stand as a professional flagship to other industries and gives the vegetable industry a greater profile. All important in a brand controlled, consumer driven marketplace.

Other communication activities include the Australian Vegetable Review, which you should have received in late May and a vegetable growers password protected website. The website is growing daily to archive all the results of the R&D program for access at your finger tips and can be accessed by going to www.ausveg.com.au

Mike Badcock
AUSVEG Chairman

From the Editor

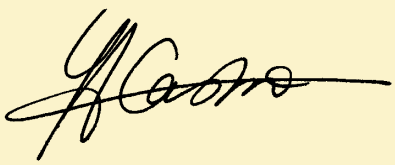


It was with great anticipation that I joined the Vegetables Australia team as Editor. The opportunity to undertake a new challenge, amongst a vibrantly diverse community was one I could not refuse. Not only was this a chance to contribute and help shape a flagship publication, it was also an opportunity to work with passionate and active people who care about the future of their industry.

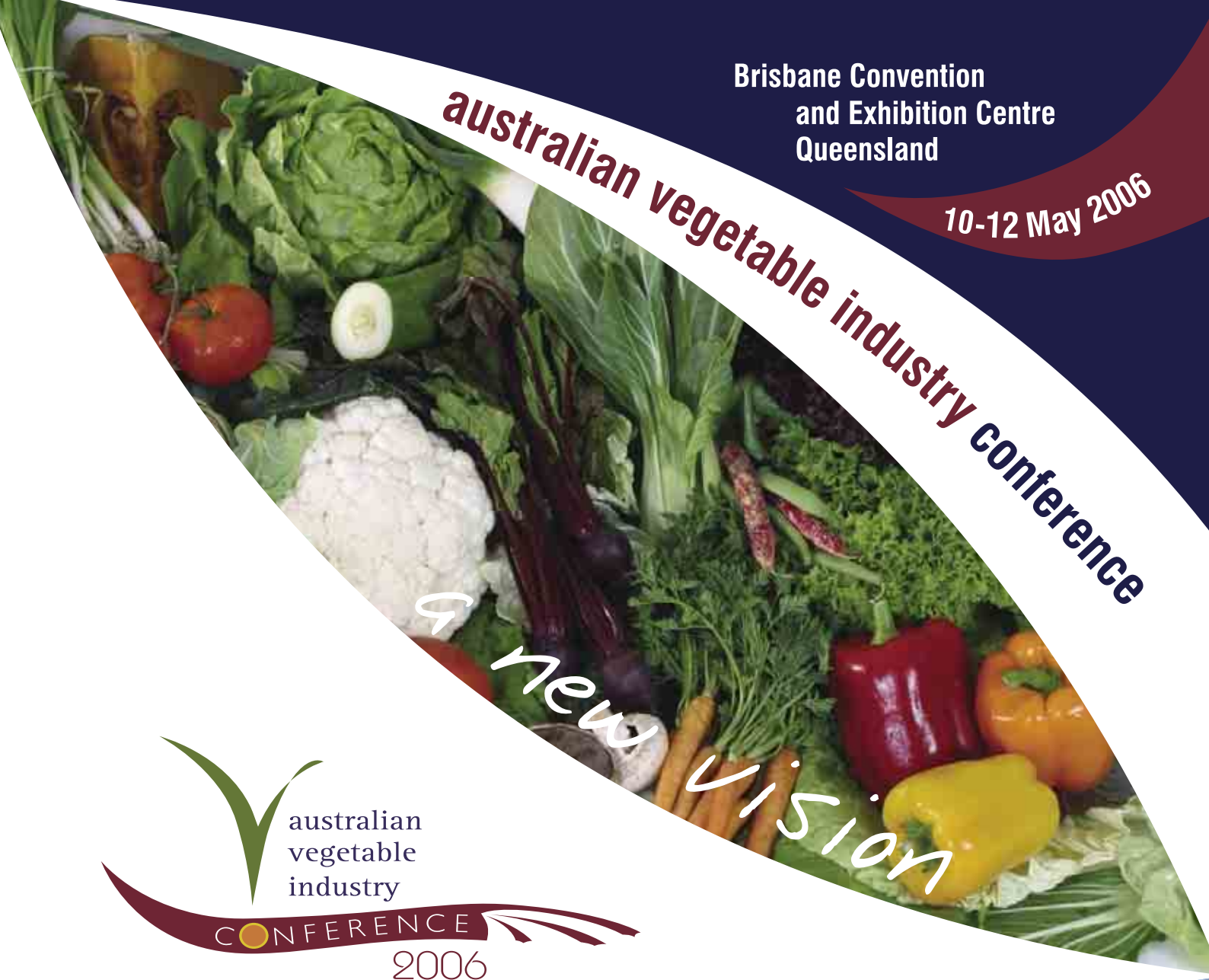
Having said this, I take pleasure in introducing you to the Vegetables Australia Editorial Committee, comprising John Mundy, Anthony Brandsema, Glenn Abbott, Teresa Schreurs, Alison Anderson, Jonathan Eccles, Lisa Maguire, David Chung - a committed group of growers and industry professionals from around Australia. With the committee's ongoing support and guidance, this publication will benefit from a wealth of knowledge and insight, which will ensure the magazine's relevance and position within your industry.

Over the coming issues I hope to introduce you to each of the committee members, and encourage you to establish contact with them. With your feedback, the magazine will become a valuable resource to all growers.

I now invite you to read through the pages of the first issue of Vegetables Australia - your industry magazine.



Youna Angevin-Castro
Editor, Vegetables Australia



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Exporting lettuce to Asia is a family affair at BM Fresh

Even in this high speed, technological age it still seems astounding that a lettuce grown at Bacchus Marsh in Victoria can be on the table of a family in Singapore within 24 hours of harvesting.

"It's roughly the same time to get our produce to Hong Kong," Frank Ruffo of Bacchus Marsh Fresh says. "And it takes just another three hours on top of that to get it into Tokyo."

BM Fresh, the export division of Tripod Farmers, is set in lush farming soil of Bacchus Marsh, 54 kilometres west of Melbourne in Victoria and managers, Frank, Angela, Joe and Carmel Ruffo, pride themselves on the quality, speed and freshness that has made their business so successful.

It is doubtful that the town's namesake Captain William Henry Bacchus ever tasted a fresh lettuce for when he settled the area in 1840 it was covered in marshy bogs, almost unfit for human habitation.

But the Ruffo's 134ha (330-acre) property either side of the tree-lined Avenue of Honour leading into the main town features soil so rich that it is 20 feet deep in parts.

"Technology allows us to trace every shipment back to which paddock it was grown in, when it was picked, who handled it and when as it was shipped to the markets,"

What began in 1989 as a hobby farm, soon expanded as Australians took to the idea of exotic salad mixes with gusto. No longer satisfied with the traditional iceberg lettuce, consumers were demanding a greater range to choose from. This encouraged the Ruffos to experiment with more varieties – red oak, baby cos, cos hearts, radicchio, mesculine mix, mignonette, butter and cos lettuces, red coral, green coral, green oak, rocket as well as baby spinach.

When Frank married Angela, and seven years later his brother Joe married her sister Carmel, they eventually decided to go into partnership and set up BM Fresh, a company dedicated to exporting high quality salad ingredients to Asia. It was a logical step: all four had farming backgrounds (the women from Werribee and the men from Swan Hill) and all had particular expertise.

And when you suddenly have a burgeoning business on your hands, there's nothing smarter than sharing the load. Frank looks after general business and production; Angela – harvesting and production; Carmel – finance and administration, and Joe – sales and transport.

It was decided early on to make a significant investment in technology and they now have a state of the art packing and production facilities, with each cool store and packaging room featuring computers to keep track of the product at all stages of handling.

"It's now a big operation with a rapidly growing export component, and imperative that we control the entire process from growth to the loading of the lettuce onto a plane," Frank said. The business is proud of its SQF 2000 quality certification rating.

"Buyers know they are getting a quality product," he said.

The computer system allows workers to key in vital information at each stage of the production process so that the type, amount, packaging, sales and destination of all produce is known at the stroke of a few keys.

"Technology allows us to trace every shipment back to which paddock it was grown in, when it was picked, who handled it and when as it was shipped to the markets," Frank said.

"All computers are currently being upgraded to a touch screen system for easier use and accuracy, especially by employees wearing gloves."

Electronic entrance and exit roller doors minimise energy loss and there's an irrigation system that recycles the water used to wash the salad mixes as well as the soil that's washed from them.

Frank and Angela Ruffo at their property in Bacchus Marsh

After the leaves are washed and spun-dried, they are weighed and packed in 1.5 and 3 kilo boxes and loaded onto refrigerated trailers (with air suspension), for delivery to the airport within 40 minutes.

There are other neat technological features at BM Fresh as well. The company now employs around 200 people and is in the process of installing a hand recognition system whereby workers can clock on by simply placing their hand on a small platform that registers the time of starting work and time of completion.

"This is valuable in not only identifying workers and the hours they work, but also in keeping track of the staff on site for occupational health and safety reasons," Frank said.

"This system also calculates each worker's wage and deposits it into their bank account each week."

Of course it hasn't been all been smooth sailing, and the Ruffos have had their troubles, like all growers do. "One year we lost the entire crop to lettuce mosaic virus," Frank said.

"But we survived and now our Integrated Pest Management strategy is very strict," he said. "And we have an in-house monitor to ensure it stays this way."

Despite the rapid growth of their business, the Ruffos pride themselves as being a family that's there to answer the phone when it rings. This is a feat in itself, in a business that operates seven days a week, and 24 hours a day.

But they also find time to give back to the industry, with Frank being on the executive commitee of the Victorian Vegetable Growers Association.

"It's hard work, but we get a lot of satisfaction from growing a quality product and in achieving the successes we have," Frank said.


Source: Sardi


Source: Sardi

Small pest ignites IPM interest Australian wide

Could it be that a small pest such as Western Flower thrips (Frankliniella occidentalis) that has caused so much devastation will actually help Australian vegetable growers in the long run? South Australian Research and Development Institute extension officer Tony Burfield sees some signs of this, if new levels of co-operation shown by growers are maintained.

Part of Tony's task was to bring growers together to talk about their issues and ask questions, something that's not always easy in an industry where growers work independently and see each other as competitors.

Much of the project's success has come from developing closer partnerships between leading growers, researchers, and other industry service providers in three states. Forward-thinking growers are leading by example, setting the pace, and giving Integrated Pest Management greater credibility.

This has included the expertise of commercial Integrated Pest Management consultants such as Victoria's Paul Horne and Queensland's Gary Artlett, who are working closely with growers to change practices at a fundamental level.

"These connections are critically important because we all need to be going in one direction if we are going to defeat our major insect pests," Tony said.

"And by getting together in workshops and demonstrations, growers are realising more about what they are up against, and managing insect and other vegetable pests with greater confidence."

South Australian grower Emmanuel Cafcakis, produces greenhouse capsicums, cucumbers and tomatoes and claims he has learnt a tremendous amount from working with the institute's Integrated Pest Management programs.

"The most important thing was learning more about the breeding cycle of the thrips, how to monitor their numbers effectively and when to spray," Emmanuel said.

"Although we plant varieties partially resistant to the thrips, understanding the cycle and how to rotate chemical applications has saved us a lot of money."

As well as chemical rotation, many growers are changing those farming practices that encourage pest problems: poor spray coverage, crops sown too close together, not leaving the soil fallow for long enough, leaving rubbish and old crop remnants around and not clearing weeds.

"The most important thing was learning more about the breeding cycle of the thrips, how to monitor their numbers effectively and when to spray," Emmanuel said.

Although progress is being made in the uptake of Integrated Pest Management strategies, Tony still sees Australia as lagging behind. "This is largely because our vegetable industry is comparatively small, with limited financial resources and a small market for new pest management products and technologies," he said.

"There's a limited range of beneficial insects too, although our researchers are working hard to find more, and new chemistries so desperately needed are emerging very slowly, giving a limited range of spraying options.

"Although we are up against some big challenges, linking three states into co-operative (Integrated Pest Management) efforts will make better use of our limited resources, "he said.

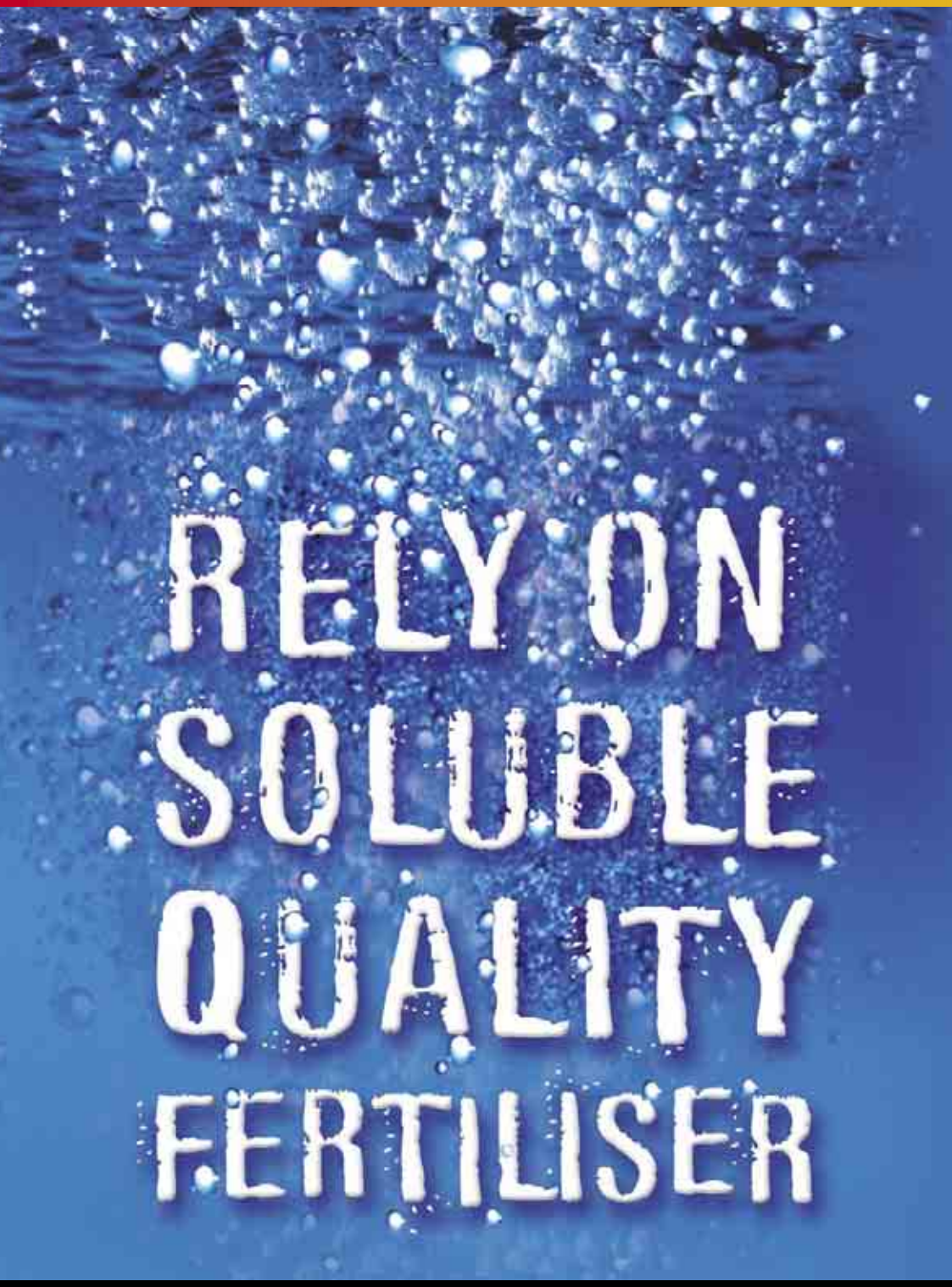
Growers and researchers are increasingly concerned that our narrow dependence on chemicals actually promotes pest problems and that this must change if our industry is to survive.

Tony feels that the long-term effort to control the Western Flower thrips will also unite growers and experts in the various states to tackle other common problems threatening the industry's future.

The bottom line

- Long-term defeat of Western Flower thrips will be through Integrated Pest Management technology.
- Growers must work more closely beyond state borders to maximise resources.
- Workshops and demonstrations are critical for growers to successfully adopt new technology.

For more information visit www.ausveg.com.au and search under 'Western Flower Thrips' or 'VG02040'.



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Being spot on may save you money

Robot farmhands, intelligent tractors and a 'seeing' broccoli grader: these are the things dreams are made of for the average vegetable grower. But these dreams are quickly becoming a reality as new technologies revolutionise traditional farming practices.

Precision agriculture has become a buzzword in Australian agricultural research. Associated with a range of cryptic acronyms, precision agriculture has made huge advancements in grain and cotton farming, paving the way for growers to maximise efficiency and the bottom line. Researchers are now looking for new ways to bring precision farming to the forefront of vegetable growing.

Precision agriculture (or PA, as it is commonly referred to) aims to manage optimum crop yields through the use of advanced technology. These include spatial recognition systems such as Global Positioning technology (GPS), sensors & data loggers, Geographic Information Systems (GIS), differential action, and visual imaging.

To date, broad acre and cotton farming are where precision agriculture technology has been dominantly adopted.

Brett Whelan, Senior Research Fellow with the Australian Centre for Precision Agriculture at the University of Sydney believes this is due to the cost benefits of developing precision technology for large-scale operations.

"Adoption was driven by the development of technology (such as yield monitors and guidance) for those industries specifically," Brett said.

"Technology has been developed for those industries because of the scale of the operations, and the relative simplicity involved in the machines which cover large distances and so reducing the per hectare cost of the technology."

But this does not mean that the future of precision agriculture is not a bright one for the vegetable industry. To the contrary, much exciting research is being undertaken which will challenge the more traditional practices of vegetable growers.

John Billingsley of the National Centre for Engineering in Agriculture at the University of Southern Queensland has been involved in a number of research projects which push the boundaries of precision technology to develop creative solutions to everyday problems.

John was one of the researchers involved in developing the technology for an automated grading system for broccoli heads, which would mechanise the grading process of export quality broccoli and gather precise data, thereby reducing labour costs, and improving overall processing efficiency.

The project, which received joint funding through a National Food Industry Strategy Food Innovation Grant and Queensland-based broccoli producers Matilda Fresh, required the ability to harvest and grade the broccoli heads for a number of export markets, and do so quickly.

"The diversity of international markets meant that the technology had to able to cater for different grading criteria," John said. "For example, Hong Kong markets liked their broccoli heads big, while the Japanese preferred them small."

The technology was designed to distinguish between the many different physical attributes of broccoli heads, with the aim of reducing the necessity for human intervention and unnecessary labour. By combining visual imaging with global positioning, John and his team came up with a solution which had the potential to reduce the need for manual harvesters.

The project was not without its drawbacks, but John believes that current advances in home computer technology would make a similar project today much easier to develop.

"Now we have such small simple computers at our disposal. It would be very easy to develop a tractor-friendly 'add-on' which could grade the broccoli as it is cut in the field," he said.

John's work with precision technology is diverse, and he has been involved in a number of projects to assist the agricultural industry in developing automated solutions to unusual problems. These have included using vision technology to identify animal species for the culling of feral pigs, the vision-based counting of macadamia nuts to identify high yield varieties, texture analysis of citrus fruit to determine citrus quality, and the measurement of the volume of dingo teeth to determine animal age in the wild.

"The possibilities surrounding vision technology are endless. Basically the sky is the limit. Our only limitation is sourcing the problems that need solutions," he said.

9th Annual Symposium on Precision Agriculture in Australasia

On Thursday 11 August 2005, the University of Western Australia will be hosting the 9th Annual Symposium on Precision Agriculture in Australasia.

Conducted by the Australian Centre for Precision Agriculture (ACPA) and the Southern Precision Agriculture Association (SPAA), the presentation program will include research, extension and commercial organisations, along with growers who are introducing aspects of Precision Agriculture to their operations.

For more information and registration details, visit the symposium website at www.usyd.edu.au/su/agric/acpa/

But John recognises that the main obstacle facing growers is the relative expense of investing in new machinery.

"One dream of mine is to advance the development of the Automated Robot Farmhand, to reduce costs to farmers. If we could bring down the cost of these to be in line with a quad bike, then growers could affordably invest in robot labour, and increase their numbers over time," he said.

"In the same way that large corporations used to have a single mainframe computer, and now everyone has access to a desktop computer, we can develop accessible technology for use on the farm. If we can get the same thing happening in farming, everyone can get into it."

Back at the Australian Centre for Precision Agriculture, Brett also believes that new developments in precision agriculture technology are likely to open up benefits to growers across a range of industries.

"One dream of mine is to advance the development of the Automated Robot Farmhand, to reduce costs to farmers. If we could bring down the cost of these to be in line with a quad bike, then growers could affordably invest in robot labour, and increase their numbers over time."

"This should make it easier for people to see the financial benefits," he said.

"There will be a greater emphasis placed on the environmentally diligent use of resources, and the precision agriculture tools will be used to track the amount of fertilisers being used for audits and track differentially treated product through the market chain.

"The information obtained will be used for a number of purposes and therefore the cost of obtaining the information will be spread over a number of applications.

"The benefits of precision agriculture should become more financially and environmentally obvious to all."

3rd Australian lettuce Conference

Competing with an ancient giant

"Free trade with China and its 13 billion people, is not viable, because it's not a level playing field," Queensland grower Howard Poole told the 3rd Australian Lettuce Industry Conference in May.

"China has 760 million farmers and many of them work in Yunnan Province where 200,000 ha of vegetables are grown and they sell a head of lettuce for 30 cents retail," Howard said.

"This compared to the Australian industry that employs around 15,000 people and needs 68 cents per head to break even in the Australian wholesale market.

"AUSVEG has taken a pro-active step in meeting with chief negotiators to express the concerns of the vegetable industry here," Howard said. "But in the meantime it is important for growers to see their local Member of Parliament to voice our concerns about a free trade agreement.

"The Government must realise that our industry can't turn on and off at their whim," he said. "It's not a glamorous industry but it's critical because we produce the everyday food for people in Australia."

Howard has been growing vegetables at Stanthorpe for 24 years, where lettuce accounts for 25% of his production. For many years Poole's Products were exported to Asia, but the rising dollar and greater competition from Chinese products made it difficult to survive.

Yunnan Province, in southwest China, borders Burma, Laos, and Vietnam in the south and Tibet further north. It has a similar climate to Australia, but with heavy summer rainfall, and is one of the five biggest vegetable growing areas in China. Production includes 65 million tonnes of potatoes (21% of total world production) and also 30,000 tonnes of cultured mushrooms annually.

Yunnan's produce could be one of Australia's competitors if the trade barriers fell, although most product would probably come from the Guangdong Province, which is closer to Australian seaports and would compete with our summer production.

"Although the word 'competition' has to be qualified when Chinese farm workers receive less than AU$2 a day, no workers' compensation, no superannuation and with no workplace health and safety regulations in place," Howard said.

"Added to this, growers pay a lot less for fertiliser, chemicals and fuel and the cost of cartons are a third less than here.

"So it definitely wouldn't be a level playing field in any sense of the word," he said.

Chemical control for disease and insects has also increased yields as they have in the rest of the world. "Urea, to the Chinese grower, is magic," Howard said. "But they can't afford much."

"It never ceases to amaze me that western-owned fast food chains source their lettuce from a system that uses these practices, and serve it up raw."

"Due to the huge number of farmers it is almost impossible to teach each one of them what to use and how to use chemicals and fertilisers properly.

"Chemical residues are of increasing concern in China and universities are working overtime producing graduates who have the qualifications to help farmers learn how and when to apply them," Howard said.

However their work patterns are extremely labour intensive and they find it difficult to accept change, Howard said.

On the question of whether there would be a softening on quality assurance for diplomatic ties in any export from China to Australia, Howard replied that the Chinese don't eat raw vegetables because they use human and animal waste as fertiliser. Even their lettuce is cooked.

"It never ceases to amaze me that western-owned fast food chains source their lettuce from a system that uses these practices, and serve it up raw." he said.

"Young graduates from Chinese universities are keen to see change and understand that to create an image of clean and green, a lot of old practices will need to go.

"But they have no idea where to start, due to the enormity of the task."

Growth is key to future for local lettuce

"Obesity is a large and growing problem in Europe as well as Australia, so today's market is ideal for promoting fresh salad vegetables," keynote speaker Fredy Leuenberger told the 3rd Australian Lettuce Industry Conference in May.

Fredy was representing the German Eisberg Group, an international company that cultivates, processes and distributes salad and other vegetables across Europe.

"And there's never been a better time to be growing and marketing lettuce," he said.

"Lettuce has a great future and Australia has a ready market as people demand clean, good quality product to satisfy, not only the retailer, but the consumer," he said. "That is the path to growth."

The Eisberg Group uses the latest technology to ensure superiority and maximum shelf life. And their quality assurance system, maintained through a central database, guarantees product traceability back to the seed.

But Fredy emphasised that marketing is a critical element to success as well.

"As well as producing fresh lettuce everyday, we put just as much effort into marketing our product, to convince people of the value of buying fresh produce," he told the conference.

To supply an ever expanding year round market, Spain, one of the driest countries in Europe, is now the most heavily irrigated and produces almost half of commercially grown lettuce in Europe. Most is grown on the Mediterranean coast where the temperature is perfect for year round production but where intense irrigation is necessary due to the low rainfall.

Despite the advantages of a huge market base (Eisberg has 314 million people to sell to in Europe) Fredy claims his job is both easier – and harder, at the same time. Their customers include the major companies in both the catering sector and retail trade.

In response to a question that statistics show that the food service industry is growing faster in Australia than the retail sector in the demand for fresh vegetables, Fredy said there were similar trends in Europe.

"You work very professionally here, especially in the baby leaf area, and in some ways, you are ahead of Europe," he said.

"We see a similar situation in Europe and as storage of our products improve, the high quality gastronomy sector is growing in demand for our product as well," Fredy said.

Highlighting the similarities and the differences faced by lettuce growers in Europe and Australia, Fredy said he was impressed with what was happening in Australia.

"You work very professionally here, especially in the baby leaf area, and in some ways, you are ahead of Europe," he said.

"However we don't market our iceberg lettuce whole – we remove the outer leaves and possibly that's a measure for improvement that Australian growers might take."

In answer to questions about temperature parameters he said that 2-4ºC was the baseline for the gastronomy area, and the retail sector 2-8ºC.

"We also need to reach a core temperature of 2ºC so we only harvest in the early morning."

European lettuce is washed in pure water and then dried before packing in a protective atmosphere.

Fredy Leuenberger, Eisberg Group

"It's important that our product is vacuum refrigerated immediately after harvest and this could take 3-4 hours before it is ready for transport."

"But however you are approaching things, and wherever you are growing lettuce, it is important that growers begin to think on a global level.

"It is imperative in today's world," he said.

3rd Australian lettuce Conference

LETTUCE APHID - FACTS

- Adult aphids are 2-2.5mm long, green to yellow-green with narrow dark patches on backs; juveniles don't have dark patches.
- Gooseberries and currants are the aphid's wintertime host, hence the name currant- aphid.
- Female aphids do not need a male to breed and can bypass the process by giving birth to smaller editions of themselves (parthenogenesis)
- The lettuce aphid is harmless, does not bite, sting and is not poisonous.
- A native to Europe, it migrated to Canada, then California, and from there to New Zealand. It arrived in Tasmania sometime in February 2004.
- Unlike many pests, this aphid prefers to be inside the lettuce heart, making it difficult to detect and reach with pesticides.
- Crops should be closely monitored and attention paid to the innermost leaves
- Beneficial insects can reach and kill them better than insecticides.
- The use of broad-spectrum insecticides will kill many beneficial insects
- If a bought lettuce shows lettuce aphid it can be simply washed off with cold water.
- All lettuce is susceptible, except aphid resistant cultivars. Home garden crops can be affected as well.
- Some seed companies have developed aphid resistant lettuce cultivars.
- Sanitation is important to control the aphid and infested lettuce should be buried as soon as possible.
- Post harvest washing of head lettuce will not help disinfest the aphid. Fine water filtration of loose-leaf lettuce will.

See the AUSVEG website

for further information

www.ausveg.com.au

Tasmanian experiment gives new hope to lettuce aphid control

"A robust IPM program can handle lettuce aphid and lower it to the level of being just another pest to manage," Dr Sandra McDougall told the 350 delegates to the 3rd Australian Lettuce Conference held at Werribee in May.

Representing the Department of Primary Industries NSW, Sandra was one of a panel of experts set up to discuss the management of the Lettuce Aphid (Nasonovia ribis-nigri), also known as the currant-lettuce aphid. This was an ironic event, as around the time of these discussions, the aphid was found in three Victorian locations. Prior to this it was thought still confined to Tasmania.

Chaired by AUSVEG chief executive officer Euan Laird, the panel comprised some of the best minds on the aphid in Australia today. As well as Sandra, Dr Paul Horne (IPM Technologies), and Tasmanian entomologist Lionel Hill (Department of Primary Industries, Water and Environment) were there along with Dr Lee Peterson (Technical Director Houston's Farm, Tasmania). Dr Stewart Davis (Production Manager for Leader Brand in New Zealand) gave the conference a breakdown of the history of the aphid in New Zealand.

Houston Farms supply fresh cut lettuce to Coles and Woolworths nationally and Lee told the conference that, prior to the event, they had "a false sense of security".

"We certainly weren't prepared for what happened to us," he said.

"The first notion that something was wrong came when we found aphids that weren't responding to the normal spray program, but we weren't too worried initially, because we have had many new aphid species in Tasmania over the past 30 years.

"But as soon as we realised what it was, restrictions and protocols were put in place and research programs set up to monitor the event.

"This cost the company around $400,000 and is still on-going."

Growers gained hope when Lionel Hill elaborated on a successful commercial trial conducted in Tasmania using integrated pest management (IPM) principles. And the findings strongly challenged the scepticism with which IPM has been viewed in the past.

"This cost the company around $400,000 and is still on-going."

The trials were conducted at Tasmania's 53 ha Forthside Research and Demonstration Farm – an 80% commercial and 20% research facility 10km west of Devonport. Nine crops were planted at fortnightly intervals through spring, summer and autumn, beginning in September 2004 and finishing in March 2005.

Each planting had 5,500 lettuces, some resistant and some non-resistant cultivars. A fortnight prior to planting the first crop, rocket was sown as a companion plant to help breed beneficial insects. Insecticides were chosen as to their impact on beneficial species, their cost and their efficacy against pests. It was highly successful.

Paul Horne (IPM Technologies) told the conference he was confident that an IPM approach was a real alternative to the use of chemicals, such as Confidor.

Source: DPIWE (Tas)

"We held many meetings to discuss the Lettuce Aphid and there was extreme scepticism among growers that the IPM approach would work," Paul said.

"But the trial conducted in Tasmania was very successful, in part because it built on the successes we have had in Victoria.

"There are many species that help control these aphids, such as Lace Wings and Lady Bird beetles.

"But you can't use a high rate of Confidor and beneficials to control aphids because it [the pesticide] knocks out the beneficial insects," he said.

The Confidor permit expires on June 30, 2005 and at the time of the panel discussion, was under investigation. If the permit is renewed it is likely that it will only have a minor use permit.

In conclusion Euan told the conference that it was funding from the Vegetable levy that gave growers greater hope in dealing with the Lettuce Aphid. It made the Tasmanian research possible and allowed us to be more prepared to tackle the aphid on the mainland."

Putting research into practise

Entomologist Sandra McDougall is acutely aware that the most effective research is done in partnership with growers. Her work in Integrated Pest Management (IPM) puts her in day to day contact with industry leaders and growers who offer plenty of feedback on where the message is getting through – and where it isn't.

"Lots of research is never put into practice," Sandra says, "often because those who could benefit are not even aware that it exists or the solution is impractical given the grower's operations.

Sandra, is the Technical Specialist (Vegetables) at the National Vegetable Industry Centre at the Yanco Agricultural Institute in southern NSW.

She has maintained an Integrated Pest Management research program since joining NSW Agriculture in 1997 after completing her PhD (Entomology – Biological Control) at the University of California. These days she is increasingly involved in extension work, rather than basic research.

With her work in lettuce IPM, particularly since the arrival of Lettuce Aphid (Nasonovia ribis-nigri) in Tasmania, she has made frequent interstate trips to meet growers and industry leaders to prepare for its inevitable arrival. She was instrumental in securing funding for the IPM demonstration trial for management of Lettuce Aphid in Tasmania, conducted by Lionel Hill of the Tasmanian Department of Primary Industries, Water and Environment.

Sandra says the work done by Lionel is outstanding and the trial results encouraging. They showed predatory insects such as brown lacewing, lady beetles and hoverfly can effectively control the Lettuce Aphid.

Sandra is a firm believer that using beneficial insects to control destructive ones can overcome many problems associated with the ongoing use of harmful pesticides. She recognises there are still very effective pesticides, but says the obvious problems relating to costs, resistance and long-term ecological damage will continue to grow.

Sandra feels that thrips and the silverleaf whitefly (Bemisia tabaci biotype B) are major challenges for the lettuce industry and for researchers in managing pests biologically. She says Queensland DPI researcher John Duff has already done valuable work on the whitefly which has the potential to spread from Queensland to other states.

"Thrips control will be more difficult because the pest is smaller and more mobile than the aphid and therefore less attractive to natural predators," she says. Sandra says the success of any IPM program depends on a range of strategies including variety selection and cultural controls.

Confusion mounts as ammonium nitrate deadline looms

With only weeks to go before a plan to regulate and license the use of ammonium nitrate comes into effect, the Australian farming community is agitated and confused over the implementation of measures for the use of ammonium nitrate.

Developed in June 2004, the program, is aimed at minimising the potential for use of ammonium nitrate in the creation of explosives, such as those used for the Bali bombing in October 2002, and the attack on Jakarta's Marriot Hotel in 2003.

Instigated by the Department of the Prime Minister and supported by Premiers and Chief Ministers through the Council of Australian Governments (COAG), the plan will limit access to security sensitive ammonium nitrate (SSAN), which includes all solid forms of the substance, plus calcium ammonium nitrate (CAN). The plan is to prohibit unlicensed use of all blends containing more than 45 per cent ammonium nitrate and more than 56 per cent of calcium ammonium nitrate.

The phasing-in period is due to end on 30 June 2005, after which no-one will be able to transport, sell, buy or use SSAN without a licence.

However, plans to introduce these new control measures have been thrown into disarray, and will almost certainly be postponed.

And, once introduced, it could be followed by an even tougher program which, in addition to affecting the initial 18,000 farmers, could affect more than 120,000 farmers across Australia.

Meanwhile, the uncertainty and lack of action over the introduction of laws governing the use of ammonium nitrate has been aggravated by two things – the worsening drought and the absence, so far, of funds to compensate farmers.

The National Farmers Federation (NFF) has said the measures could involve a total cost of more than $100 million. This is based on figures of 18,000 farmers throughout Australia who use ammonium nitrate, who would have to spend between $4000 and $10,000 in order to comply with the regulations.

But no funding was set aside for it in the Federal Budget. This is in spite of a letter from Warren Truss, Minister for Agriculture, Fisheries and Forestry to the Prime Minister requesting compensation – although the amount is said to be considerably less than the $100 million required.

Another cause of confusion is the proposed date for the introduction of the measures.

Under the original program, all farmers and transport operators who use SSAN products as fertilisers, must be registered and licensed by 30 June 2005. If not, they will be banned from using it.

The NFF, however, says there will be a further phasing in period of six months.

Whoever takes responsibility and whatever date is agreed upon, there are a raft of measures, guidelines and regulations that have to be met in order to become registered and gain a licence.

But, even without the Budget allocation and the pre-occupation with the drought, the implementation of those guidelines has been sporadic and disjointed.

A major concern is the lack of consistency between the states on when and how the measures should be implemented, how much they would cost and whether licences will involve cross-border jurisdictions.

Questions are also being asked as to why the Australian government has been so tough when other countries are more lenient. The US especially has introduced laws that mean only three of its states have to comply, and Europe allows its farmers to have a much higher concentration of ammonium nitrate in their fertiliser blends before they have to be regulated.

There are also concerns regarding the decision to single out ammonium nitrate, when other substances such as urea or chlorine are just as capable of being used to make a bomb. On this point, however, the authorities say ammonium nitrate was the most obvious and that other substances might also be regulated in future.

This point is of particular concern for the NFF as it believes many more compounds will be licensed in coming months.

"And that will affect not just the 18,000 farmers it does now, but some 120,000 across Australia," Mr Arkle says.

The fragmentation of responsibility and communications is also an issue, with legislation differing from state to state.

Queensland, New South Wales, Western

Australia and South Australia, for example, have either declared ammonium nitrate to be an explosive or are about to do so, making it subject to the conditions of the Explosives Act. Tasmania says it will introduce legislation when it is practicable to do so, while Victoria, the Northern Territory and the ACT say arrangements will be put in place under Dangerous Goods Legislation.

Despite this, the aim is to have a nationally consistent, effective and integrated approach for the control of access to SSAN to those with a legitimate need for using it; to ensure accountability and to establish a control framework.

A Commonwealth-State Working Group has drawn up guidelines for transport, storage, sitting of new facilities and the agricultural use of SSAN products.

Those applying for a licence are subject to police and ASIO checks. So too are any of their employees who might have access to SSAN.

The likely costs as well as the contacts for implementation details and more information

State	Likely cost	Contact for details	Email / Tel
New South Wales	$250 for five years	Workcover Assistance Service	contact@workcover.nsw.gov.au Tel 131 050
Victoria	$100 for five years	Dangerous Goods Unit, WorkSafe Victoria	info@workcover.vic.gov.au Tel 03 9641 1555
Queensland	$38 for using ammonium nitrate and up to $280 for transport and storage	Chief Inspector of Explosives, Department of Natural Resources and Mines	explosives@nrm.qld.gov.au Tel 3237 1386
Western Australia	Undecided on costs	Safety, Health and Environment Division, Department of Industry and Resources	edg@doir.wa.gov.au Call centre Tel 08 9222 3413
South Australia	$100 with a renewal fee of $50 after one year plus an amendment fee of $50	Workplace Services, Department for Administrative and Information Services website www.Eric.sa.gov.au	Tel 1300 365 255 or 08 8303 0400
Tasmania	$100 for three years	Helpline Workplace Standards Tasmania	Tel 1300 366 322 (local) 03 6233 7657 (outside Tasmania)
Northern Territory	Around $70 for two years	NTWorkSafe	ntworksafe.deet@nt.gov.au Tel 1800 019 115
ACT	To be determined	Manager, Dangerous Substances, Gas and Plant, ACT WorkCover	Tel 6205 0200

STORAGE DETAILS A MUST FOR LICENCE

Farmers who want an ammonium nitrate licence must submit a detailed storage plan to their state authority.

- It should show nearby properties, the distances to other buildings, public places and any fuel or dangerous goods stores.
- The store must be 200m from the main residence, 300m from silos, 10m from any general purpose stores and at least 30m from a machinery store. It must be secure or under constant surveillance and the plan must show all doors, windows and locks.
- "No Trespassing" or "Authorised Access Only" signs should be displayed and farmers might also use lockable gates, sensor lights, alarm systems and/or guard dogs.
- Those with access to SSAN will have to undergo police and ASIO checks, so too will any future personnel.
- A limit on building size and the amount stored is unlikely, but anyone planning a new store should check with their local authority.
- The licence will cover the storage, buying, use and transport of SSAN. It will cover several sites but plans and details must be provided for each store.
- Separate licence applications will have to be submitted if sites are in different states.

CLAMP ON TRANSPORT RISKS

Farmers, drivers and transport operators will be tightly controlled when handling ammonium nitrate.

The new measures include:

- A separate transport licensing system.
- Growers will need to present a risk minimisation plan. They also will have to undergo police and ASIO security checks.
- Secure locations and record-keeping measures for receiving, dispatching and documenting quantities.
- Constant surveillance of loads while in transit, especially during long-haul breaks. The load must be under lock and key or sealed with numbered tamper-proof seals at all times.
- Security plans must include the location of the load and instructions for workers in emergencies. This might mean installing alarms and global positioning systems.
- Licence holders lessening the risk of the truck being stolen or commandeered which could include improved cabin security and advanced communications systems.

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Source: both images WA DPI

New study joins the dots on cucurbit virus diseases

Zucchini yellow mosaic virus (ZYMV) and Papaya ringspot virus-cucurbit strain (PRSV) were identified as the most severe threat to cucurbit crop quality and yields in Western Australia, Northern Territory and Queensland, according to a new study carried out by the Western Australian Department of Agriculture.

For the first time, a survey of cucurbit growing properties in Western Australia, the Northern Territory and Queensland was undertaken to determine which were the most prevalent viruses and the effect they had on crops. The surveyed crops were primarily cucumber, melon, pumpkin, squash and zucchini.

ZYMV and PRSV are spread via aphids, however Squash mosaic virus (SqMV) is spread by beetles, cutting implements and machinery and also by infected seed. Although several methods of transmitting viruses are known, the report has indicated much more research needs to be done into identifying conditions affecting how the virus spreads, before appropriate remedies can be recommended.

The study also found cucurbit volunteer plants and weeds acted as important reservoirs for the virus spread to crops. Virus-resistant pumpkin cultivars showed little trace of infection, even when planted next to a heavily infected cucurbit crop. Melon crops were also highlighted as carriers of viruses although watermelons appeared to be least affected.

Established vegetable cucurbit farms close to other farms were found to have suffered badly from virus epidemics, while isolated farms with large-sized crops or new cucurbit crops had lower infection levels.

Headed by Ms Brenda Coutts of the WA Department of Agriculture, the study found ZYMV and PRSV had infected most crops tested in all three states, with the notable exception being Central Queensland (where only PRSV was identified). Squash and zucchini crops were the worst affected crops, while pumpkins and watermelons showed the lower levels of virus infection.

"This study is the first of its kind in these states," Brenda said. "Up until now we've known about the existence of five main viruses in Australia, but we've had little information on the specific distribution, incidence and effects of these viruses on cucurbit crops in Northern Australia."

In addition to ZYMV and PRSV, Cucumber mosaic virus (CMV), Squash mosaic virus (SqMV) and Watermelon mosaic virus (WMV) were detected in almost all crops, with some crops being 100% infected. In many cases, crops were infected with a mixture of viruses.

The study emphasised virus management strategies need to be developed quickly and communicated to growers to minimise the impact of the viruses on crop yield and quality.

"The study helped to pinpoint what our main problems are," said grower David Menzel. David's pumpkin and rockmelon crops were surveyed as part of the study.

"In the past we've seen infections on our crops but not known exactly what's caused it. At least now we've got some positive identification of the main viruses. It's the first step to determining the best forms of treatment."

The bottom line:

- Cucurbit viruses identified as a threat to crops
- Virus management strategies need to be developed quickly to minimise impact on crops

For more information visit www.ausveg.com.au and search under 'cucurbit' or 'VG03057

Vegetable growers say 'no' to methyl bromide

Growers throughout Australia have played a major role in the fight against global warming.

For the first time in years, pollutants in the atmosphere that made the 'ozone hole' over Antarctica are showing signs of depleting.

And, according to the Federal Department of the Environment and Heritage, much of its recovery was due to the Australian farming community – among others – dramatically reducing the use of methyl bromide for soil fumigation prior to planting as a weed and pest deterrent.

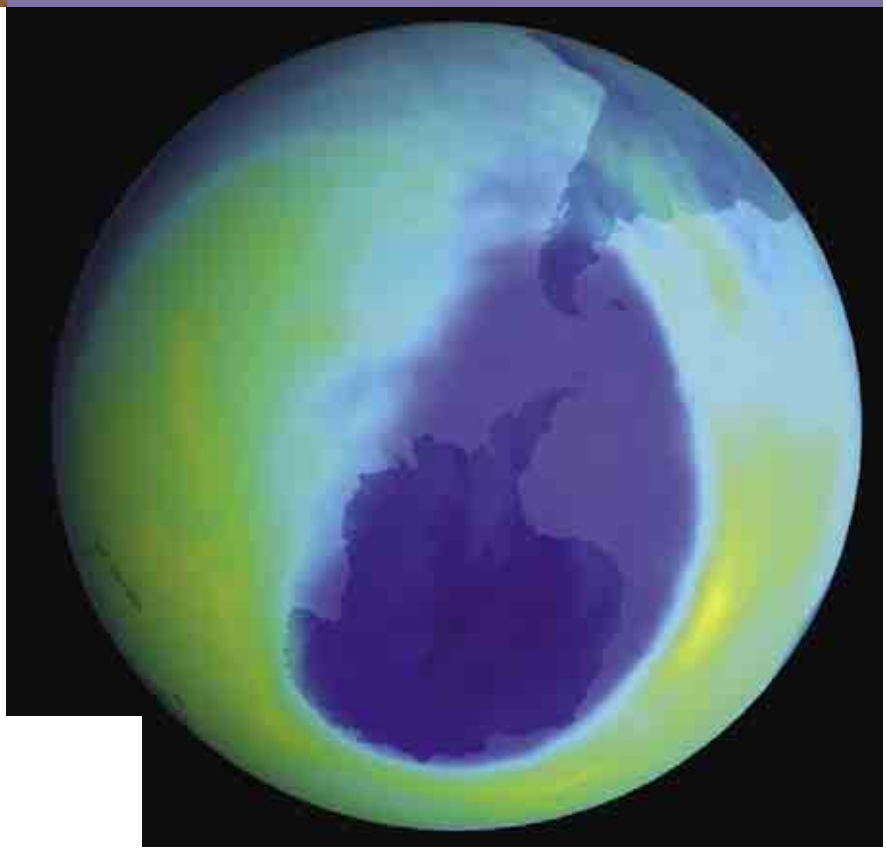
Thousands of tonnes of the substance, once considered one of the world's most effective horticultural aids, was used in Australia and around the world.

As far as Australia is concerned, it has taken 10 years to achieve the 70 per cent phase out of methyl bromide. But, as of the beginning of 2005 horticulturists and growers have abandoned it.

One of the leaders who headed the long and complex program, Dr Ian Porter of the Department of Primary Industries in Knoxfield, Melbourne, says the success is a tribute to the co-operation and goodwill of the people involved.

Ian warns the fight is far from over and says there are still many countries and farming communities throughout the world who resist the push to ban methyl bromide – despite its indisputable cost to the environment and the effect it is having on diseases such as skin cancer.

But, he says, he is heartened by the way Australians, almost without exception, have accepted the change.



"It has taken a lot of persuasion, especially since methyl bromide is such an effective weapon against pathogens, weeds and pests, and there were strong commercial reasons for retaining it," Ian said.

"But gradually we managed to build up a trust between ourselves and the horticultural communities and, in time, the growers came to accept the positive results achieved with alternatives"
Dr Ian Porter, Victorian Department of Primary Industries.

"Also, when the program was put in place, little was known about the ozone hole and the effect methyl bromide was having on it.

"At the outset, there was huge resistance and, even when we got to the stage of talking, there was a lot of banging on tables.

"But gradually we managed to build up a trust between ourselves and the horticultural communities and, in time, the growers came to accept the positive results achieved with alternatives"

Ian said the whole process had reinforced his faith in Australians' sense of fair play.

"Man is very inventive and we were able to show that there are alternatives to methyl bromide," he said. "And the way the industry and others came to accept what we had to say showed me what a great bunch of people Australians are when it comes to seeing common sense.

"So with an extraordinary amount of goodwill and trust on both sides we managed to get this through."

Prompted by the discovery of the ozone hole in the 1990s, what became known as the Montreal Protocol called on scientists around the world to set about studying ways to improve the health of the atmosphere.

Methyl bromide, with its high levels of toxicity, was seen as a major culprit and many countries almost immediately banned its use. Others like Australia, in regard to its value and widespread use, established a 10-year phasing out.

Since then, the Australian scientific community has spent about $500,000 a year (raised through a voluntary levy on methyl bromide sales and industry levies) on research and the development of alternatives. Since January 2005, only four industry groups have applied for exemptions for fumigation prior to planting.

So, for all practical purposes, Australia has met its present targets, but Ian warns we must not be complacent.

Other countries have spent many millions of dollars on research and development but, because of commercial and other obstacles, they have still not met their targets.

So, Ian says, there is still a long way to go before other countries and other horticultural industries follow the example set by Australia.

Methyl bromide alternatives for glasshouse industries

The identification of suitable alternatives to methyl bromide for use in glasshouse industries, such as vegetables and flowers, has posed some unique challenges, according to Victorian Department of Primary Industries researcher Robyn Brett.

"The structure of many glasshouses prevents the entry of the fumigation equipment needed to apply most methyl bromide alternatives," said Robyn. "Also, operators must be inside the glasshouse during application, which raises significant OH&S issues."

In the past, soils within glasshouses were fumigated from outside the structure with heated methyl bromide (hot-gas), and currently no other product can be applied in this manner.

To address these issues, Robyn and her team have recently completed a project entitled, *Preparing for methyl bromide phase-out in Australian glasshouse industries*.

This project:

- Conducted the first Australian trials of 'in-line' fumigants (Telone C-35 and chloropicrin), which can be applied from outside the glasshouse through dripper-irrigation lines.
- Devised a water-flushing technique for reducing plant-back times and crop injury when using the methyl bromide alternative dazomet (Basamid).
- Evaluated steam and soil-less production systems as alternatives to methyl bromide.
- Conducted the first trials of the potential fumigant alternatives methyl iodide and propylene oxide. This included developing a system for applying heated methyl iodide from outside the glasshouse.

"Many glasshouse industries have adopted soil-less production systems that avoid the need for soil fumigation," said Robyn, "but this system is not suited to all crops."

Due to their difficulties in adopting methyl bromide alternatives, some glasshouse industries (flowers) have applied for, and been granted, a critical-use exemption from the methyl bromide phase-out.

"The eventual registration of the alternatives identified through our research would allow glasshouse industries to fully adopt methyl bromide alternatives," said Robyn.

Communicating methyl bromide changes

The Australian community should applaud its horticultural industries for the massive adjustments they have made to phase-out methyl bromide, according to the Victorian Department of Primary Industries (DPI).

"Industries now understand the serious impact that methyl bromide has had on the ozone layer and have undertaken one of the biggest changes in horticultural practice in the modern era to address it," said DPI's methyl bromide communications officer, Alan Shanks.

"Despite no single product on the market providing a 'drop-in' replacement for methyl bromide, industries such as strawberries, orchards, turf, vegetables and flowers have adopted a number of alternative strategies," Alan said. "Some industries have adopted alternative chemicals such as Telone C-35®, metham sodium, chloropicrin and dazomet (trade name Basamid®), while others have adopted non-chemical alternatives such as steam and production in soil-less substrates."

"Additionally, researchers are currently evaluating new products, such as methyl iodide, to support their future registration in Australian horticulture," he said.

Since commencing the National Methyl Bromide Communication Program in 2001, Alan's team has used a variety of tools to facilitate communication between researchers and industry nationwide. They have included internationally-recognised newsletters and websites; grower trials of alternatives in every industry affected by the phase-out; the creation of a national network of methyl bromide alternative experts; research workshops; and roadshows, where information was presented directly to growers.

Currently, the Methyl Bromide Communication Program is working with those industries still having difficulties in phasing-out methyl bromide, such as strawberry runners and floriculture.

The good news is that the adoption of methyl bromide alternatives by Australian horticulture is already having benefits for the environment."

"Bromine levels above Melbourne have already fallen by 30%," Alan said.

"Even better, researchers now predict that the full implementation of the Montreal Protocol will mean that the ozone layer starts recovery within the next 10 years."

Effective research and communication programs, and adoption of alternatives by industry have, and will, significantly contribute to these outcomes.


Source: Virginia Horticulture Centre

Greenhouse cultivation with a spin on the future

After establishing a greenhouse, vegetable growers have newfound control over an environment they were formerly at the mercy of. All elements of production can be managed: climate, temperature, moisture levels, ventilation, fertilisation and vegetable-devouring pests. Well, that's the theory.

However, coordinating everything, even in greenhouse production, isn't quite that easy. And that's apart from being able to find the right greenhouse for your purposes, run it along successful and profitable lines, and find enough employees with the necessary skills to help you.

The Greenhouse Modernisation Project (GMP) was set up at the Virginia Horticulture Centre (VHC) in South Australia four years ago with the chief aim of introducing growers to the latest technology and helping them to better manage their operations.

VHC general manager Mike Redmond says the vegetable industry on the Adelaide Plains contributed $683million to the State's food economy last year.

"With a vegetable industry base of 700ha of greenhouses and 1200 growers, the GMP was one of the most significant commercial greenhouse technology transfer projects in Australia," Mike said.

"It was established with funding from HAL, the Department of Primary Industries and Resources South Australia (PIRSA), and considerable help from sponsors," Mike said. "Some of that funding has now run out, and it is now being run as a fully commercial greenhouse as well as a demonstration site and horticulture skill centre."

PIRSA horticulture specialist Barry Philp claims the essential aim of the greenhouse project was to bring the industry up to speed, both domestically and internationally.

"Switching from conventional greenhouse management to a bigger, more modern structure involves different strategies, and to do it successfully without help is often very difficult," Barry said.

Many growers around Australia are using crude, outdated structures, like tunnel houses that often contribute to the proliferation of disease. According to demonstration site manager Van Le, greenhouses with elevation and venting are more successful at reducing pests and controlling fungi.

"It is critical for growers to be in control of their operations and we can show how to do this more successfully," Van said.

Van deals with a steady stream of visitors every week and says most leave inspired.

"We show them how they can upgrade their greenhouses and technology, and gain the management skills to run them more profitably," Van said.

"They arrive with at least one problem they want solved, but along the way they also become enthused about how vegetables can be grown better.

The huge display greenhouses that sit side by side at Virginia in South Australia were provided by two of the world's top designers – Azrom and Richel.

Both greenhouses are divided into soil-based production systems using drip irrigation and sophisticated hydroponic trough systems, all with state of the art computer controls. Together, they effectively demonstrate the different approaches to greenhouse cultivation so that growers can compare and decide what suits them best.

"Many growers who visit us are considering up-grading," Van said. "Some have very basic facilities, like three metre high tunnels without environmental controls.

"Of course the cost of buying new equipment is significant, and they want to get the best value for their money.

"But once they have made the change, they make more money in the long-term because they no longer have the high percentage of crop losses."

Growers can also be directed towards courses that will help them further understand the system they choose, whether soil cultivation or hydroponics.

Biological control trials are another important aspect of the greenhouse work at VHC. It is anticipated that pesticide-free greenhouse produce will become the norm in the future, so the thrust to develop effective biological controls – friendly insects, bacteria or viruses that prey on predators – is ongoing at the greenhouse site and growers can gain help as they set up Integrated Pest Management systems.

Apart from its informative role, the vegetables grown in the greenhouses provide income to maintain the Centre's viability. Twenty growers from different backgrounds and cultures now run Virginia Fresh.

"We trial vegetables uncommon to Australia as well," Van said. "An important aspect of this lies in cultivating new lines and varieties sought by the many different groups now living in Australia."

The VHC is now a registered training organisation and general manager Mike


Source: Virginia Horticulture Centre

Redmond emphasises the overall importance of education to growers and the need to upgrade skills.

"As greenhouse cultivation flourishes, we also need the qualified people to work in them as well," he said. "So it's important for us at the VHC to promote careers in horticulture for young people"

The Virginia Horticulture Centre, incorporating the greenhouse demonstration site, can be found on the Old Port Wakefield Road, Virginia, South Australia.

The bottom line:

- Virginia Horticulture Centre showcases the latest greenhouse technology
- Better greenhouse management can improve long-term proitability

For more information visit www.ausveg.com.au and search 'Greenhouse' or 'VX00028'

Changeover a slow but rewarding process

For Virginia Plains grower, Minh Phan, the process of upgrading his greenhouse system was a slow, but rewarding process.

Minh has 20,000 square metres of tomatoes and cucumber under cultivation, half of which is now grown under a hydroponic system.

"I got many of my ideas for improvement from visiting the greenhouse project at the Virginia Horticultural Centre, and modeled my new greenhouse on what I saw there," Minh said.

"The project manager, Van Le, was a great help to me and gave me plenty of ideas to work with," he said.

The changeover for Minh was only begun last year, and he is still waiting for gas to be connected so that he can set up a heating system on the site. And half his property is still operating under an outmoded tunnel system.

But the mere fact of having a new structure with ventilation, enabling different growing methods has made an enormous difference, he says.

"We already have fewer crop losses and save time by not have to clean up weeds.

"Ultimately we have greater quantity and better quality produce," Minh said.

Minh was a biochemist working in a Vietnamese government laboratory before migrating here in 1981 aged 24. Most of his tomatoes are shipped to Victoria for sale at the Footscray wholesalers' market.


Source: Virginia Horticulture Centre

Spirit flows despite drought

In Brisbane's Lockyer Valley, the effects of the drought reach everywhere. The absence of rain is reflected in the sign on the Tenthill Baptist Church that proclaims "continue to pray for rain", in the straw-coloured hills that haven't seen significant water for several years and in the dust that rises as vehicles travel through the district. Most of all, it is reflected in the worried faces of the people who depend on the land for their livelihood.

For Chris and Desley Jackwitz, who grow capsicum, lettuces, broccoli, celery and stone fruit just outside Gatton, an hour from Brisbane, it is no different. The lack of solid rainfall affects everything they do.

Both turning 31 this year, their holidays revolve around the drought, the number of people they employ on their farm depends on what the weather's doing and their future is riding on whether the heavens open.

When Chris' grandfather moved to the district in the early 1940s, water was plentiful and the valley was a key link in Australia's food chain. So much so that Chris' grandfather was excused from serving during the war because he was deemed to be providing an essential service.

While today's growers are still producing, the volume of crops has diminished and with it employment opportunities and certainty about the future.

Chris holds a keen interest in research that will improve crop yield and says studies done on silverleaf whitefly that use a parasitic wasp rather than spraying to eradicate the pest sounds promising – if only there was enough rain to grow the crops to test them.

Chris says the district is no stranger to evolution. Originally dairy country, growers turned to potatoes and onions in the 1960s, moving to broccoli in the 1970s and now to capsicum, lettuce and stone fruit.

At the Jackwitz property, little orange flags dot the fields. The sticks they mark allow Chris and Desley to access key information about their crops – whether the soil is moist enough, whether there are enough nutrients to sustain crops at key times. All the data can be accessed remotely via computer.

Raised on the land around Tenthill, Chris has been in the farming industry for about 13 years, and he and Desley have run their own business for the past seven. He has fond memories of his own childhood, spent riding horses and swimming in local water holes. He hopes for a similar life for his kids.

Chris' day begins around 5am, and then he heads back to the home that was his grandfather's for breakfast with Desley and their children, Caitlyn, almost 3 and Elijah, 6.

He returns to the land after breakfast, staying in his work clothes most days until well after 8pm.

``The lack of water effects all your work - it takes a lot more time - the work is more intensive for less rewards,'' Chris said.

``Like with any other business you set yourself parameters to make yourself profitable and when you run out of water there's less profit because of a lack of volume.''

When Chris started out in 1991, he could rely on a decent flood every three or four years to top up the water supply. That certainty has now gone.

Several years ago, Chris and Desley employed up to 25 people at key times. This year the number dwindled to eight.

The Jackwitzes are keen for the Queensland government to implement a recycled water scheme in the area, piping in water from Brisbane. They say it will give them certainty, which will have flow-on benefits such as allowing them to once again explore export markets, which in turn will boost employment and ease the burden on the Government to provide unemployment and other benefits.

``The lack of water effects all your work - it takes a lot more time - the work is more intensive for less rewards," Chris said.

As well as the drought, imports have taken their toll on growers. Onions can be imported more cheaply than they can be grown here, and capsicum imports from New Zealand are eating into market share.

So while the Jackwitz's honeymoon eight years ago saw them combine pleasure with business in Hong Kong, the family is uncertain about whether they will even have a break this year.

Thinking melons?
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- Strong vine and quick maturity.

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Hybrid seedless watermelon

- Dark green stripe on a medium light green background. Flesh is very dense resulting in a relatively heavy melon, averaging 10-12kg
- For proper pollination, Kryptonite should be interplanted with a diploid variety, such as Safari.

NEW Ultrasweet Daytona
Hybrid rockmelon

- Medium-sized, near round fruit with excellent flavour and very high brix
- Small cavity with thick, intense orange flesh that is very firm
- Strong vine and good setting ability.

Safari
Hybrid watermelon

- Elongated cylindrical fruit averaging 11-13 kg
- Robust vine with very high yield potential
- Firm, dark red flesh with minimal fibre
- Medium-wide dark green stripes on a light green background.

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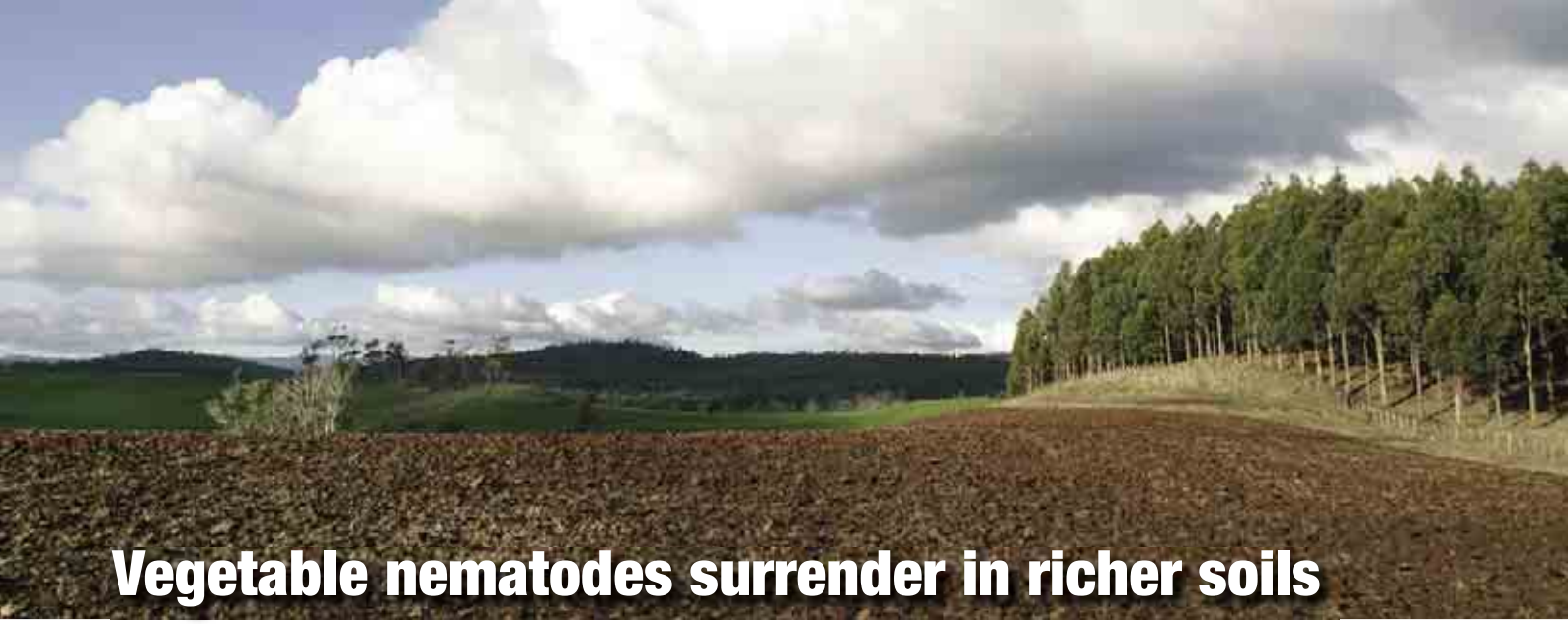

Vegetable nematodes surrender in richer soils

Root-knot nematodes (Meloidogyne spp.), that cause heavy losses in vegetable crops, seem effectively combated when organic matter is added to the soil, according to a recent study.

Nematodes are microscopic worms that flourish in soils with low biological activity and diversity. Infestations are more prevalent in warm climates and sandy soils and cause swellings to develop on vegetable roots. The subsequent galls or knots reduce plant growth and yield, and render crops, like carrots and potatoes, unmarketable.

Grower Don Halpin, who farms capsicums, zucchini, and grape tomatoes on 100 hectares at Bundaberg, Queensland, participated in field trials using organic additions to the soil.

"The trials turned out to be quite good, particularly in suppressing nematodes that damage our capsicums by stunting their growth," Don said. "To implement the system you need a lot of organic matter and we had that because we also grow sugar cane."

The field trials were led by Dr Graham Stirling from Biological Crop Protection, and conducted over three years using sugarcane trash (12.5 t/ha) and some additional nitrogen.

Observations on capsicums planted 18 weeks after the organic matter was added showed the increased presence of organisms hostile to nematodes.

In contrast, treatments using commercial products promoted as soil health improvers and alternatives to nematicides, had no effect. Two components of this program (neem cake and a product purported to contain various fungal predators of nematodes) also failed to control root-knot nematode in glasshouse tests.

But Graham cautioned that adding large amounts of organic matter to soil just before planting could have unforeseen side effects and recommended that growers experiment before using them on a large scale.

"The optimum time for adding organic matter depends on soil type, moisture and temperature, but is probably best carried out three to six months prior to planting," he advised.

"Organic matter is beneficial in modern vegetable production systems that deplete soil organic matter, like cultivated beds covered with plastic," he said.

"But they are likely to be even more useful in farming systems that include organic mulches, appropriate crop rotations and minimum tillage, as these practices will reduce the amount of organic matter required to achieve a more balanced soil biology."

The bottom line:

- Nematodes threaten crops in warm climates and sandy soils
- Organic matter added to the soil can control nematodes and reduce chemical use

For more information visit www.ausveg.com.au and search for 'Nematode' or 'VG01087'

Australian exports have a bright future in Japan

Exporting Asian root vegetables to Asia has been a research project with many participants and a big agenda. And although there was just one trial shipment of one vegetable to one country, the scientists and growers at the heart of the project are upbeat.

The initial scoping was for exports of several varieties of taro, yams and sweet potato to the big Japanese and American markets. Today the focus is on one variety of a modest, hardy small - corm taro, or sato-imo, for Japan.

The market rewards look good. Japan's imports of taro have grown from zero in 1990 to more than 20,000 today, with China currently supplying almost 100 per cent. Signs are that the quality end of the Japanese market would buy more than 1,000 tonnes of Australian sato-imo at around $2.50 compared with $1 paid for the Chinese product. Perceived as `clean and green', our sato-imo would also arrive in the Asian off-season, giving the Japanese year-round fresh produce.

The special driver now is for replacement crops for hard-hit sugar cane growers.

Asian vegetable project officer Daniel White said, "Exporting sato-imo is not a game for small scale-growers. Viable production calls for a high degree of mechanisation for harvesting, cleaning and grading plus effective cool storage and transport."

Daniel, a research officer at Central Queensland University's Primary Industries Research Centre in Rockhampton, has worked four years on the Rural Industries Research and Development Corporation (RIRDC) - funded project.

The current project began in 2001. Stage one was a market and quality assessment with a tour of Japan and the USA. Stage two involved working with stakeholders along the demand chain, conducting production trials in Australia and a trial shipment.

The special driver now is for replacement crops for hard-hit sugar cane growers.

"There were supplier and quarantine problems importing the relevant sato-imo cultivars, which we eventually sourced in Hawaii," Daniel said.

"The delays meant we kept working with these cultivars, but also looked at cultivars which had been grown for four years by a small group of commercial NSW Northern Rivers growers.

"Some original growers and some new ones contributed to our one tonne trial shipment in 2003. The Japanese reacted very positively."

But the growers were understandably discouraged by two issues: only about 50 per cent of their crop were an acceptable size, shape and colour; and there was no means to process the other 50 per cent as a peeled product for other uses.

Sato-imo, a japanese staple

About the size of a golfball, the mild-tasting sato-imo is also known in Australia as Japanese taro. The Japanese favour the Ishikawa-wase and Dodare varieties – steamed, simmered or in soups. Taro protein equals our common potato but has 2.5 times as much calcium.

Sato-imo is a prolific self-propagator. One corm produces up to 40 or 50 `daughter' corms. It likes humid conditions without excessive heat. Queensland trials had better results in Bundaberg than Rockhampton and Emerald. Northern Rivers growers found sato-imo's main challenges (weed control when young, and Heliothis and cluster caterpillars) were easily managed with established, acceptable methods. Sato-imo is easily stored and transported at 8 to 15 °C.

The Northern Rivers growers who pioneered sato-imo also introduced 16 sweet potato varieties and three yams which they still sell to Sydney and Melbourne. Peter McLaughlin of Murwillumbah grew sato-imo five years ago and helped form NORADA.

"There are fantastic possibilities. Japan has to import 78 per cent of their fruit and vegetables. Taiwan, Singapore, Hong Kong, and now China are also great possibilities."

"There are fantastic possibilities. Japan has to import 78 per cent of their fruit and vegetables. Taiwan, Singapore, Hong Kong and now China are also great possibilities. We either get going or lose this market to Southern Hemisphere competitors like South Africa or Brazil," he said.

"The project has given growers valuable marketing and scientific knowledge.

"We can grow it and put in all the other necessary effort. But we can't set up export companies, or the plants for processing. The disappointment has been with the free enterprise sector."

Daniel White said about the project:

"We might not have set up coordinated, ongoing exports during the project, but there have been many achievements and lessons learnt. We are now focused on fresh exports of sato-imo. We didn't have the resources to explore frozen or cooked sato-imo products or the other root crops.

"Growers will soon have imported sato-imo cultivars from the NSW DPI and Queensland's DPIF, plus several Japanese sweet potato varieties from the DPIF.

"Many Queensland and NSW sato-imo growers are still keen on exporting. It's mainly a matter of getting the post harvest handling and marketing mechanisms in place and functioning well. We'll soon release an Australian sato-imo growers guide through RIRDC."

The bottom line:

- Japanese markets are prepared to pay more for Australian taro
- Lack of post harvest options in Australia currently limit profits for growers
- "Sato-imo (Japanese taro) cultivars were grown successfully in the Northern Rivers region of NSW."

For more information visit www.ausveg.com.au and search for 'Taro' or 'VG00087'

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Future of beetroot industry calls for creative strategies

The Lockyer and Fassifern valleys of southeast Queensland supply approximately 90% of Australian processed beetroot, with 28,700 tonnes of slicing beetroot and 2500 tonnes of baby beets produced in 2003.

However soil-borne disease and extreme weather cause unnecessary crop losses in an industry that currently relies on only three slicing varieties and one baby beet variety.

As well, the number of growers supplying raw product has steadily declined, with remaining growers hard-pressed to meet consumer demand for this popular vegetable.

Grower Linton Brimblecombe is a fourth generation farmer who has been growing beetroot on his 400 hectare property at Forest Hill in the Lockyer Valley since 1989.

"This was the first research for many years and was initiated by growers because we had issues with disease and the quality of produce," Linton said.

"I think that as a group our knowledge has now broadened dramatically through all the work that was done by researchers."

When asked to come up with some solutions, a team from Queensland's Department of Primary Industries and Fisheries, led by plant pathologist Heidi Martin, resolved on a four-pronged management strategy to minimise the problems facing the industry.

Surveys of beetroot soils in the south Queensland area found that the most prevalent soil-borne diseases affecting beetroot were the fungal pathogens Rhizoctonia and Pythium. They also indicated that disease severity was influenced by both temperature and the age of plants. Researchers therefore recommended that the planting window be shortened so that beetroot is grown only at times of the year when environmental conditions are favourable for beetroot production and not disease development, thus avoiding periods of high disease risk such as February-March and October-December.

It was also suggested that growers use their knowledge of disease species at particular sites to make more informed decisions about when to plant to minimise disease outbreaks, and that all beetroot seed be treated prior to planting. The recommend fungicides were Rizolex and Apron used as a seed dressing combination, and applied as a slurry for best results.

More than 90 beetroot varieties were tested in field trials as alternatives to the current industry standards and it was suggested that the industry would benefit by switching to monogerm beetroot varieties.

It was considered that crop rotation was critical to disease control, especially employing plant species that are not hosts for the soil-borne beet pathogens, such as barley and dolichos.

The bottom line:

- Soil borne diseases and extreme weather threaten beetroot production in Australia
- Prevalent diseases include fungal pathogens Rhizoctonia and Pythium
- Crop rotation is critical for beetroot disease control

For more information visit www.ausveg.com.au and search 'Beetroot' or 'VG00084'

Whirl-wind tour with beetroot excellence in mind

The Australian beetroot industry faces many challenges in the 21st century, not the least of which is increased competition at a global level.

Determined to meet this test, key industry representatives embarked on a 20-day study tour of Europe and America late last year to look at all facets of beetroot production, and ask questions.

It was a significant move in terms of the industry's continued viability, and strongly supported by HAL, the Queensland Department of Primary Industries, Golden Circle and seed companies Bejo and Syngenta.

Led by Jon Carmichael (Golden Circle's manager of grower integration), Queensland growers Tim Pocock, Peter Voight and Rick Reddacliff along with Golden Circle Plant Manager canned foods Dominic Bassi travelled to the Netherlands (Holland), Denmark, England and the USA, to observe all stages of the production process, from seed production to farming methods and processing of the end product.

"Australia is the highest beetroot consuming nation per capita in the world," Jon said. "And the only country where it features on the menu at major fast food outlets."

"If you buy a hamburger at Hungry Jacks in the USA, it won't come with beetroot," he said.

But while we have a lot to be proud of in terms of our production techniques, there was also apparently a lot to learn from the countries visited.

The tour members focused on four key areas in their information gathering exercise:

- Meeting major beetroot seed producers;
- Investigating new varieties of beetroot for the Australian environment;
- Comparing and contrasting overseas production methods;
- Assessing innovative products and new retailing approaches for beetroot.

"The networking was valuable from many aspects, primarily in leading to a better understanding of how seed production companies relate to the overall performance of the industry," Jon said.

The group obtained information on new seed varieties, and were shown various growing and harvesting techniques – among them row spacing, plant densities, raw material storage, washing grading and blanching.

A distinct advantage of the tour lay in discovering new beetroot products that might be adapted in the future for the Australian market, like vacuum packaging and selling beets in punnets.

"We all felt very grateful for the help provided, and information that will assist Australian beetroot production stay abreast in an increasingly competitive global market." Jon said.

The bottom line:

- New varities and production techniques may assist longterm viability of Australian beetroot

For more information visit www.ausveg.com.au and search for 'Beetroot' or 'VG04062'

Protecting our friendly biologicals from sunburn

Just like humans, biological pesticides are susceptible to the sun's rays. The results of a new research study indicate that sunscreens may be the secret to healthy vegetables.

The call from consumers for pesticide free vegetables has increased pressure on researchers to look after the interests of friendly viruses and bacteria that kill insect pests. One of the hazards for biological pesticides, like Bacillus thuringiensis (Bt), are the sun's rays, that can damage and render them ineffective.

Dr Brian Hawkett from Sydney University, in collaboration with Dr Paul Horne of IPM Technologies, have developed a dispersion of titanium dioxide, a chemical commonly used in sunscreens for humans, to protect biological actives from sunburn.

The formulation that has been developed does not deter the feeding of target insects and does not contain any components that adversely effect the survival of the biological actives that it are designed to protect. Ultimately a tank mix dispersion was developed that proved effective in protecting Bt against UV degradation in laboratory experiments. Successful field trials later carried out by Dr Paul Horne and Peter Cole on cabbages under pressure from Diamondback moth (Plutella xylostella) demonstrated similar results.

The new product mixes well in a pH range from 4 to 10, thus covering most conditions likely to be encountered in Australia. The quality of the dispersion isn't adversely affected by other tank mix components and is not easily washed away by rain.

Successful commercialisation could give growers improved performance from selective, biological-based pesticide options.

The bottom line:

- Biological pesticides can suffer degradation from the sun's rays.
- Titanium dioxide, a chemical used in human sunscreen, can provide protection for valuable biologicals.

For more information, visit www.ausveg.com.au and search under 'Biological Pesticides' or 'VX01006'

Caring for the environment

Vegetable growers are showing their local communities that they are sensitive to potential impacts that farming may have on the environment by adopting the industry developed Enviroveg Program nationally.

"Growing vegetables is dependent on the environment and growers are highly aware of farming practices that could cause harm, as well as threaten the long term viability of their farms," Helena Whitman, Environmental Manager, AUSVEG said.

Enviroveg is a national, industry owned and developed program that is provided free to all vegetable growers. The program assists them to identify ways to improve environmental practices on-farm and helps to assess, measure and review these improvements annually.

Originating in Victoria in 2000, the Enviroveg program was developed by growers in response to growing community and government beliefs that nutrient loss from horticultural activities was a major contributor to pollution of nearby waterways.

"Vegetable growers nationally face the same issues and through the peak industry body AUSVEG and state organisations will be encouraged and supported in their adoption of the program across Australia," Helena said.

"Our industry must be seen as environmentally responsible. Most growers already have good environmental practices in place, however the general community doesn't see the on-farm effort made by vegetable growers to look after the environment. After all it is their own future they are protecting."

Some growers may fear that changes can be very expensive, preventing their involvement with Enviroveg. But being involved in the program does not necessarily mean growers have to spend a lot of money to be environmentally responsible.

"Enviroveg lets them make changes at their own pace. Growers don't have to put the whole program in place immediately and most growers are half way there already," Helena said.

Participating members of the Enviroveg program have access to many benefits such as useful information about; waste disposal, contact details and incentives or grants that are available for implementing environmental programs on-farm.

Currently Enviroveg is a self-assessment program, however over the next year Enviroveg Environmental Assurance (EA) will be developed for growers who want to achieve certification. Enviroveg EA will meet the requirements of food safety programs such as Freshcare and will be audited at the same time.

"Even if growers aren't ready to implement Enviroveg on their farm, I am encouraging them to at least have a look at what is involved. It isn't difficult or expensive and is a great advantage to their businesses," Helena said.

For further information or to become a member of Enviroveg visit

www.ausveg.com.au
or call Helena Whitman on 0409 535 051.

Source: EPS Collection Network

Recycling network boosts environmental future

Now growers and have an opportunity to reduce their contributions to landfill by recycling their expanded polystyrene packaging through the EPS Collection Network.

Waste produced by expanded polystyrene products is a major concern for the Australian vegetable industry, with a number of environmental issues associated with the disposal of these non-degradable products. With many Australian growers using polystyrene crates for the packaging and transport of fresh vegetables, the likely fate of these crates is in one of the many landfill sites around the country.

Expanded polystyrene (EPS) is used widely as a packaging medium for a variety of reasons. Its shock-absorbing characteristics make it ideal for the storage and transport of fragile items, and its insulation and moisture resistant qualities retain freshness of perishable products. The majority of expanded polystyrene packaging manufactured in Australia is used in the transport of fruit, vegetables and seafood, and it is used extensively for both the domestic and export market.

In 2000, over 15,000 tonnes of expanded polystyrene packaging was produced across Australia, with over 20% (3220 tonnes) of this product used for packaging of fresh produce.

In that same year, the EPS Collection Network was established in conjunction with the Plastics and Chemical Industries Association (PACIA) and Recycling Expanded Polystyrene Australia (REPSA).

The aim of the program is to provide a recycling collection facility to all users of expanded polystyrene products. While the program was primarily established to service the horticultural sector, all types of waste, including packaging, building and industrial waste, as well as waste generated from domestic households is accepted at the centres.

"The program originally came about through supermarkets' refusal to use EPS produce boxes unless they were recyclable," Kathryn Toomey, EPS Business Manager for Recycling Expanded Polystyrene said.

"Today, as a result of the program, every produce box delivered to Coles or Woolworths, or which is returned to wholesaler markets is now collected as part of the EPS recycling program."

Collection of expanded polystyrene products results in several outcomes.

Produce boxes, as used by vegetable growers, can be cleaned, sterilised and reconditioned for use in the transport chain. A stringent accreditation scheme ensures that the package is intact, with no cracks or holes, and no obvious stains or markings before being approved for re-use. All labels are removed, and the packaging is washed and chlorinated to enable suitability for the transport of food. These boxes can then be re-sold at a lower cost than new boxes.

Damaged or non-reusable forms of EPS are recycled. From the collection points, the expanded polystyrene is compacted, melted and converted to general purpose polystyrene (GPPS). This is then blended and used to make a variety of plastic products including, wine cork lids, cassette casing, coat hangers and synthetic timber. It is also used in the manufacture of waffle pods and lightweight concrete.

Today there are recycling centres in most capital cities, with a new site expected to open in Canberra next month.

"Our plans for the future include modernising our centres to improve technology. This will allow increase in efficiencies and recycling capacities," Kathryn said.

"At the moment we are limited by our technology. Plans to upgrade melting equipment at our Melbourne centre, for example, will allow us to increase the melting process from 100 kilograms per hour up to 300 kilograms per hour."

Industry support also means that the future of the program is secure, and will continue to offer benefits to growers.

"As the program is subsidised by manufacturers of expanded polystyrene products, growers and primary users of EPS produce boxes can continue to return their boxes for recycling, free of charge," Kathryn said.

"There really is no excuse for growers not to become involved."

For more information contact your nearest EPS Collection Centre.

Qld	Acacia Ridge	(07) 3327 9999
NSW	Flemington	0418 634 044
Vic	Footscray	(03) 9687 2110
SA	Pooraka	(08) 8262 6248
WA	Welshpool	(08) 9258 3200
Canberra	Hume	0418 487473


Source: DPI Frankston


Source: DPI Frankston

Branched broomrape (Orobanche ramosa)

As one of the world's worst parasitic weeds, the oddly named branched broomrape has caused enormous crop losses across the Mediterranean, Middle East and Asia.

However, since 1992, when the first case of branched broomrape was first identified in Australia, local growers have also had to tackle the devastating effects of this noxious parasite. The effects of the weed are so severe that in 2000 it was estimated that branched broomrape infestations could cost Australian agriculture $2.1 billion in 25 years if left uncontrolled.

The broomrape is an underground parasitic plant which attaches itself to a range of broadleaf plants, including (but not limited to) broccoli, cabbage, capsicum, carrot, cauliflower, celery, cucumber, eggplant, lettuce, pea, potatoes and tomatoes. It survives by attaching itself to the root system of its host, depriving it of water and nutrients and causing a severe reduction in yield and quality of produce.

The seeds of this sturdy weed can remain viable for up to ten years in contaminated soils, lying dormant until germination is activated by chemical triggers from host roots, causing the seed to attach itself to the host plant.

Eradication of the weed is extremely difficult, therefore management of broomrape primarily seeks to contain existing infestations to prevent further spread into uncontaminated areas. Soil fumigation is effective, however has significant cost and environmental implications. Solarisation techniques using plastic sheeting to heat the soil to kill the seeds is also very expensive, and tends to make land unusable for extended periods.

Other effective treatments include the use of "trap crops" or "catch crops"– crops that stimulate the germination of the broomrape seed, but are either not affected, or are expendable and are treated with herbicides along with the broomrape.

Containment measures for the control of broomrape include extreme quarantine restrictions to prevent inadvertent transport of the offending plant into broomrape-free areas of Australia. This involves appropriate decontamination of vehicles, footwear and clothing, as well as quarantine of animals which may have grazed on weed-effected areas to ensure that ingested seed is not deposited on uninfected land.

Infested branched broomrape sites should be reported to the nearest DPI office who will advise on the appropriate action to be taken.


Source: DPI Frankston

Identifying branched broomrape

Scientific name:
Orobanche ramosa

Common name:
Branched broomrape

Seeds

- Minute, like dust particles.
- Each plant can produce up to 500,000 seeds

Plant

- Small plant growing 10 - 30cm
- Plant contains no chlorophyll, so the plant is not green at any stage
- Branched stems are brown or straw coloured
- Covered with very short, glandular hairs
- Flowers are pale blue

C'mon, buy home grown!

Garn' mate you little ripper oi! on ya

As one of the world's worst parasitic weeds, the oddly named branched broomrape has caused enormous crop losses across the Mediterranean, Middle East & Asia losses across the Mediterranean, Middle East & Asia.

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"Technology allows us to trace every shipment back to which paddock it was grown in, when it was picked, who handled it and when as it was shipped to the markets,"

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Free Trade Crisis

News of negotiations of a free trade agreement between Australia and China which were announced in April has painted a gloomy future for vegetable growers unless the government takes the industry's concerns seriously.

Ongoing trends indicate that China is a growing threat to the industry irrespective of free trade negotiations, however it is apparent that if the government does not shield Australian growers, the industry will face a major crisis.

Currently the maximum tariff protection on selected vegetables is 5%, with many vegetables having zero tariff protection. A free trade agreement with China would see these protected vegetable lines, including semi-processed vegetables, frozen potato products and processed tomatoes, lose this protection completely. In a climate of poor terms of trade, this will make a huge difference to the competitiveness of Australian vegetables on the local market, and potentially devastate processing sustainability in key areas, such as Tasmania.

"A comprehensive FTA with China has the potential to destroy Australia's vegetable industry", said AUSVEG chairman Michael Badcock.

Michael said that the Chinese vegetable industry is 100 times larger than the Australian industry and that Australian growers could find it extremely difficult to compete, unless the FTA contained significant safeguards for Australian vegetable producers.

"Australian vegetable growers must meet stringent food safety and quality regulations ensuring vegetables are free of pesticides and disease and safe to eat. These necessary requirements are important to ensure Australian consumers have access to fresh food that's good for them," he said.

"Chinese producers on the other hand, do not face the same Quality Assurance requirements, have access to cheap labour and are often able to land fresh vegetables in our markets at significantly cheaper prices."

A joint Australia-China feasibility study estimates an FTA could be worth $US64 billion to China and $US18 billion ($A24.4 billion) to the Australian economy between 2006 and 2015.

The Australian vegetable industry would welcome the opportunity to introduce product into China, and it is hoped that any trade liberalisation which occurs as part of the free trade agreement would be reciprocated by China, allowing Australian products to penetrate the Chinese market.

A joint Australia-China feasibility study estimates an FTA could be worth $US64 billion to China and $US18 billion ($A24.4 billion) to the Australian economy between 2006 and 2015.

A formal submission has been presented to negotiators for the free trade agreement, and chief negotiator Rick Wells attended the last AUSVEG board meeting in June.

AUSVEG is continuing to develop both offensive and defensive policy submissions to the Australian negotiators, but remains extremely concerned that the horticulture industry will be "traded away" for gains in larger industries such as mining and grains.

Lettuce Aphid update

Following the discovery of Currant Lettuce Aphid in Melbourne in May, AUSVEG has been working closely with all states and the industry to ensure that regulatory measures are fair and minimalist across all states.

This follows the decision by Queensland, Western Australian, South Australian and New South Wales governments to regulate the movement of lettuce and host material from Victoria. This means that growers wishing to trade interstate must meet with agreed trading protocols between the respective states.

Lettuce Aphid was first discovered in Tasmania in 2004, and extensive research trials into Integrated Pest Management were conducted to ensure its safe management. This research has enabled Victorian growers to prepare themselves for the potentially devastating effects of the pest, and manage its control both quickly and efficiently.

Growers seeking specific information regarding the requirements in their state should contact their local vegetable association or local DPI.

News in Brief

Horticulture Business Code

In January 2005, the Australian government announced it would develop and implement a mandatory code of conduct for the horticulture industry.

The introduction of the code will improve the global competitiveness of Australia's horticultural industry. By encouraging good business practices, the code will reduce the current trend of growers avoiding the wholesale markets. This decision comes after many years of concerted campaigning by horticultural industries.

Over the coming months, the Horticulture Australia Council (HAC) and the National Farmers Federation (NFF) and their members will be involved in negotiations of the code. A joint working committee of HAC and NFF representatives will work closely with the government and industry stakeholders to develop a code which will provide the clarity and flexibility required by the industry.

The code development process will include a number of key steps. The development of a draft regulatory impact statement to consider the objectives of the code and an evaluation of options and a cost-benefit analysis. This will be followed by an extensive period of consultation with growers.

Benefits for growers will include a fairer trading environment; improved contractual clarity – growers will now know whether their wholesaler is acting as an agent or merchant; better transparency – growers will be able to access information about who purchased their product through an agent or merchant; clarity in regard to who has title and risk of produce; and improved dispute resolution processes, including processes to address intimidation or commercial retaliation by supply chain partners.

Despite concerns that a mandatory code will create excessive paperwork or red tape for growers, the HAC and NFF have assured members that they will not agree to a code which will negatively impact the industry.

For more information and regular updates about the Code, visit:
www.horticulturebusinesscode.com.au

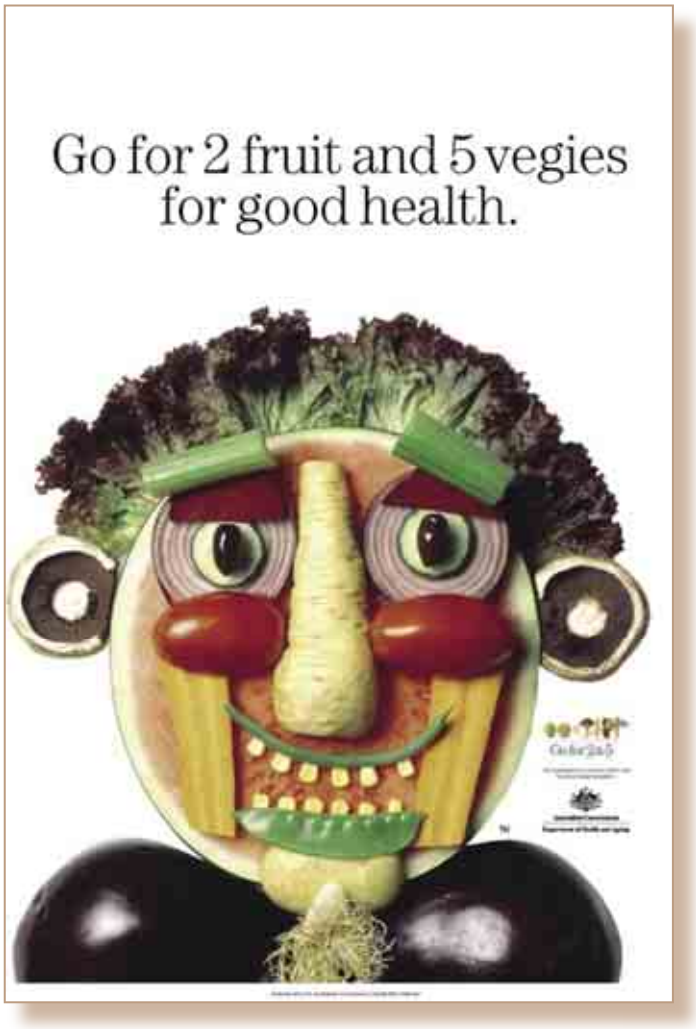
Work on the Horticulture Code of Conduct will deliver significant benefits for all:

Benefits for Australia

- Continued access to fresh, tasty and safe, Australian grown produce.
- A world's best practice horticulture industry, able to compete in a globalised food market providing export revenue for Australia's economy.
- Distribution of wealth and jobs to regional communities.

Benefits for Growers

- A fair go.
- Rewards for innovation and best practice.
- An ability to invest in the future of the industry with the knowledge that the industry is not compromised by corrupt practices.



Vegie man 'Go for 2 & 5' campaign a welcome boost for growers

The Australian government funded national 'Go for 2&5' campaign was welcomed strongly by Australia's vegetable industry when it was launched in April.

"The clever animated Vegie Man advertising campaign is a fantastic step forward to increasing the consumption of vegetables which will improve the health of all Australians," AUSVEG Chairman Mike Badcock said.

Australians currently consume well below the recommended levels of fruit and vegetables. A similar campaign was recently run in Western Australia over the last three years and was very successful, increasing consumption significantly.

The 'Go for 2&5' advertising campaign feature the 'Vegie Man' and was seen on television, magazines, internet, radio, shopping trolleys and display boards in major retail centres. Recipe cards were also made available nationally through a range of retail outlets.

"Vegetables are a very important part of a well balanced diet and contain most of the necessary vitamins, minerals and antioxidants that promote good health. Increasing consumption is vital to reversing the trend of unhealthy eating habits of Australians," Mike said.

The campaign formed part of the Australian government's wider four year Building a healthy, active Australia package to promote healthy eating and increased physical activity among children.

What vegetable is that?

Ever wondered what the Asian vegetables sitting alongside the bok choy at the supermarket are used for, and what the difference is between bok choy and pak choy?

A new three year project to develop methods of marketing and standardised naming for Asian vegetables will deliver knowledge for consumers to be confident in purchasing and cooking with these vegetables.

The project managed by NSW Department of Primary Industries (DPI) is co-funded by Rural Industries Research and Development Corporation (RIRDC), and AUSVEG through HAL.

Many of us may have experienced the flavours of asian vegetables at restaurants but are still unable to recognise these vegetables while grocery shopping.

The project will develop a national system of names to be used right across Australia. This will mean that wholesalers, retailers, chefs and consumers will be able to speak the same language.

'Asian vegetables' include produce originating from many different countries right across Asia including China, Japan, Malaysia, India, Sri Lanka, Vietnam and Thailand, and to confuse things even further, each country has its own translation.

Ways to market these vegetables to the non-traditional consumer, including in store promotions to expand the market for Asian vegetables, will also be tested as part of this project.

The results of the survey and the system of names will be launched later this year.

New South Wales

What does NSW Farmers' Association do for horticulture members?

NSW Farmers' Association (NSWFA) is Australia's premier farm lobby group with over $90 million in assets and representing 12,000 farming families. The Association has been the voice of farmers in NSW since 1890. The Association's core business is to influence key political and agribusiness decision makers who make the policies that affect farming businesses.

Recent wins for the NSWFA include:

- Horticulture Code of Conduct
  The Association played a crucial role in gaining the Federal Government's commitment to mandate a Horticulture Business Code. The Business Code will be designed to ensure growers will be able to carry out their transactions with traders with a clear understanding of the terms of trade, and the responsibility for risk, which is significant when selling perishable produce.
- NSW Pesticides Act
  The Association lobbied successfully for significant concessions for farmers with respect to pesticide record keeping and pesticide use under the NSW Pesticides Act. Under initial government reforms, horticulturalists would have had to keep extremely onerous and impractical records of pesticide use and would have been required to undergo accreditation for even extremely minor annual use.
- Future use of fertilisers
  The Association lobbied successfully for significant reductions in requirements for farmers under the upcoming Security Sensitive Ammonium Nitrate (SSAN) regulations. The Association is also actively pursuing a 'Compliance Grant' for growers to cover the costs to farmers of the new regulation.
- Protecting Ag Research Stations
  The Association fought 'tooth and nail' for the retention of NSW DPI Research stations such as the Gosford Centre for Greenhouse Horticulture by organising farmer meetings and rallies to protest against proposed closures.

Luke Jewell
Executive Officer
NSWFA

NSW Farmers Association

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South Australia

As a direct result of the Lettuce Aphid threat and the current media attention on the appalling standards of imported fruit & vegetables, the Virginia Horticulture Centre immediately began work with Relish Design Studio to develop a "SA Grown" brand. The brand promotes South Australian fresh produce, and is certified by the Virginia Horticulture Centre.

This brand can only be used under a strict license agreement through the Virginia Horticulture Centre. Channel 7's current affairs program, Today Tonight, aired a story featuring the Virginia Horticulture Centre on the 21st June, promoting the "SA Grown" brand to viewers as a trusted source of genuine South Australian produce. Growers who would like further information about branding their product as "South Australian Grown" should contact Victoria at the VHC on 08 8282 9200.

Michael Redmond
General Manager
Virginia Horticulture Centre

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VIRGINIA HORTICULTURE CENTRE SOUTH AUSTRALIA

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Tasmania

In a dramatic first six months to 2005, Tasmania, like mainland Australia, has suffered a severe shortage of rain. Most vegetable growers on Tasmania's north-west coast have expected a decrease in their average annual rainfall of around 70 per cent.

To compound the frustration of continued irrigation, growers have had to face some horror news. Poppy crops have been reduced by up to 25 per cent (8 000 ha), McCains Australia has cut its area of peas grown for the 2005/06 season by 30% and also handed its growers a massive 19% decrease in their upcoming contract, and Simplot has lost half of its contract to supply McDonald's with French fries. This represents approximately 43 000 tonnes of raw product with a farm gate price of around $10 million. This will see some growers not getting a contract, with others severely reduced. Further frustration and uncertainty is being experienced while Simplot re-tender for their remaining half of the McDonald's contract.

Simplot initially made a pea area reduction cut of 20% with no price decrease, however they are reviewing their stance in light of McCain's announcement. It is feared that they will follow the lead with a decrease in price and a possible additional 5% reduction in area.

Denis Leonard
Executive Officer
TFGA – Vegetable Council

TFGA

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Victoria

As expected, the rapidly changing weather in Victoria keeps things interesting for our growers. Just a few months ago we were discussing the unusually very wet conditions we were experiencing. After, we experienced record low rainfall and high temperature which caused an oversupply of vegetable. Now, the weather has suddenly turned cold causing crops to stop growing. At least, we should expect that a reduced production will help the markets settle down to better prices.

There is no doubt that the announcement of the Melbourne Market relocation is the talk of the day. According to the Government, the market will be relocated in 2010 to the suburb of Epping, north of Melbourne. Contrary to the Government's direction, growers and most market users do not wish to move out of the current location. The majority of market users are happy to stay. Unfortunately, the Government did not consult us enough and has announced that we must move, whether we like it or not.

On a more positive note, the Victorian industry must congratulate the organisers of the Lettuce conference and the National Vegetable Expo held in May this year. The conference attracted over 330 people from all over Australia. The National Expo was also a great success. The variety trials displayed by the seed companies were a real treat for vegetable growers.

Best wishes to all growers and associated members. I am looking forward to seeing you all at the V.G.A. Gala Dinner at the Palladium on the 20th August 2005.

Luis Gazzola
President
VGA

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Western Australia

In recent weeks, the WAVGA and PGAWA have been heavily involved in the Country of Origin Labeling debate. Together with the Western Australian Newspaper, our associations have been running a coupon campaign which has seen over 24,000 consumers return coupons in support of mandatory Country of Origin labeling of fresh produce.

The WAVGA campaign to establish a fee for service (levy) to support the association has been successful. Members will be informed shortly of new regulations coming into place.

The PGAWA is also working to promote the marketing of potatoes and to take an aggressive look at market development opportunities in international markets. It has also established a grower owned company to market and sell seed potatoes internationally, Seed Western Potatoes Ltd.

Our associations are also strongly supporting AUSVEG's campaign to change government policy to support and encourage the Australian vegetable sector by ensuring equivalence of imported product and encouraging product innovation and development.

Jim Turley
Executive Officer
WAVGA / PGAWA

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Current Minor-use Permits issued by APVMA

as at 16 June 2005 (For Vegetables)

This is a list of current minor use permits issued by APVMA for the vegetable industry. Permits may vary from state-to-state. For further information regarding restrictions in your state, visit www.ausveg.com.au

Crop	Permit Number	Expiry Date	Target Pest	Active Ingredient
Agricultural Areas, Pastures, Crops, Forage Crops and Non-Crop Areas	PER7657	7/31/05	Locusts and Grasshoppers as listed on the product labels (Attachments 1 & 2)	Metarhizium Anisopliae Var Acridum Spores
Asian Brassica and Leafy Vegetables	PER5835	9/30/07	Cabbage White Butterfly, Cabbage Moth, Helicoverpa Spp., Cluster Caterpillar	Alpha-cypermethrin
Asian Leafy Brassicas	PER7441	12/31/08	Downy Mildew prevention	Phosphorous Acid present as Mono-di Potassium Phosphite
Asian Root Vegetables	PER6503	1/31/09	Grass and Broadleaf Weeds	Glyphosate
Asparagus	PER3616	6/27/05	To kill regrowth of infected Asparagus Plants (including Crowns)	Glyphosate present as Isopropylamine Salt
Asparagus	PER6064	12/31/08	Nut Grass and Johnson Grass	Norflurazon
Asparagus	PER6584	6/30/05	Garden Weevil (Phylctinus Callosus)	Fipronil
Asparagus	PER6647	12/31/08	Stemphylium Leaf Spot	Difenoconazole
Asparagus	PER7498	6/30/05	Garden Weevil (Phylctinus Callosus)	Tau Fluvalinate
Asparagus	PER8467	6/30/06	Garden Weevil (Phlyctinus Callosus)	Fipronil
Beans	7301	3/31/06	Silverleaf Whitefly (Bemisia Tabaci)	Bifenthrin
Beans - Green and Navy	PER8206	3/31/08	Various Weeds	Metolachlor-s
Beans - Green Pods and Immature Seeds (Phaseolus Spp.)	PER8113	9/30/05	Sclerotinia Rot (Sclerotinia Sclerotiorum)	Bosaclid
Beans (Common)	PER7642	3/31/06	Silverleaf Whitefly	Imidacloprid
Beans Green	PER5172	12/23/06	Control of Prince of Wales Feather (Amaranthus Powellii)	Acifluorfen present as the Sodium Salt
Beans, Lettuce	PER8182	1/31/07	Sclerotinia Rot (Sclerotinia Spp.)	Azoxystrobin
Beetroot	PER5766	6/30/05	Looper, Vegetable Weevil, Thrips and Rutherglen Bug	Lambda-cyhalothrin
Beetroot	PER6136	3/31/07	Webworm, Loopers and Heliothis (Helicoverpa Spp.)	Methomyl
Beetroot	PER7816	12/31/06	Sclerotinia Rot	Procymidone
Beetroot	PER8271	12/31/06	Rhizoctonia Root and Crown Rot of Beetroot (Rhizoctonia Spp.)	Tolclofos-methyl
Beetroot (Beta Vulgaris Ssp. Vulgaris)	PER6049	6/30/05	Cercospora Beticola, Botrytis Sp., Alternaria Sp. and Phoma Batae	Chlorothalonil
Beetroot (Beta Vulgaris Subsp. Vulgaris)	PER6543	12/31/05	Rhizoctonia Root and Crown Rot of Beetroot (Rhizoctonia Spp.)	Tolclofos-methyl
Beetroot (Beta Vulgaris)	PER7530	3/31/10	Green Peach Aphids (Myzus Persicae) Potato Aphid (Macrosiphum Euphorbiae)	Pymetrozine
Brassica Leafy Vegetables	PER5735	2/28/08	Aphids, Whitefly and Thrips (Except Western Flower Thrip)	Imidacloprid
Brassica Leafy Vegetables	PER5814	9/30/07	Diamondback Moth, Cabbage White Butterfly and Heliothis (Helicoverpa Spp.)	Spinosad
Brassica Leafy Vegetables	PER6646	6/30/08	Downy Mildew	Metalaxyl-m + Mancozeb
Brassica Leafy Vegetables	PER7631	3/31/09	Aphids	Pirimicarb
Brassica Leafy Vegetables	PER7908	9/30/08	Downy Mildew (Peonospora Parasitica)	Dimethomorph + Mancozeb
Brassica Leafy Vegetables	PER7604	6/30/09	Redlegged Earth Mite (Halotydeus Destructor)(Rlem) and Plague Thrips (Thrips Imaginis)	Alpha-cypermethrin
Brassica Seedlings in Nurseries	PER8254	9/30/07	Downy Mildew (Peronospora Parasitica)	Phosphorous (Phosphonic) Acid as Mono-di K Phosphonate
Brassicas	7301	3/31/06	Silverleaf Whitefly (Bemisia Tabaci)	Bifenthrin
Brassicas	PER7642	3/31/06	Silverleaf Whitefly	Imidacloprid
Brassicas - Broccoli, Brussels Sprouts, Cabbage, Cauliflower	PER7106	5/30/07	Vegetable Beetle Adults (Gonocephalum Spp.)	Chlorpyrifos
Brassicas and Brassica Leafy Vegetables	PER8142	9/30/05	Sclerotinia Rot (Sclerotinia Spp.)	Boscalid
Broccoli	7629	3/31/06	Silverleaf Whitefly	Pymetrozine
Broccoli and Cauliflower	PER7601	6/25/06	White Blister Albugo Spp.	Metalaxyl-m + Mancozeb
Broccoli and Cauliflower	PER8302	6/25/06	White Blister Albugo Spp.	Metalaxyl-m + Mancozeb
Broccoli, Brussels Sprout, Cauliflower	PER6792	10/31/05	White Blister Rust (Albugo Candida)	Copper present as Copper Oxychloride
Bulb Vegetables - Bulb Onion, Garlic, Fennel, Leek, Shallot, Spring Onion and Tree Onion	PER6175	3/9/06	For the Suppression of Downy Mildew	Phosphorous (Phosphonic) Acid present as Mono and Di Pot
Bulb Vegetables (Bulb Onion, Garlic, Fennel, Leek, Shallot, Spring Onion, Tree Onion)	PER6309	12/30/05	Downy Mildew (Peronospora Destructor) and Purple Blotch (Alternarian Porri)	Mancozeb
Bulb Vegetables (Excluding Onions)	PER8240	3/31/10	White Rot (Sclerotium Cepivorum)	Tebuconazole
Cape Gooseberries (Physalis Peruviana L.)	PER7353	3/31/08	Twospotted Mite (Tetranychus Urticae)	Abamectin
Capsicum	PER4407	9/30/05	Western Flower Thrips (Frankliniella Occidentalis)	Methomyl
Capsicum	PER4409	9/30/05	Western Flower Thrips (Frankliniella Occidentalis)	Methidathion
Capsicum	PER7379	10/31/06	Cluster Caterpiller (Spodoptera Litura)	Chlorpyrifos
Capsicum (Capsicum Annuum)	PER6580	6/30/08	Broadleaf and annual Grass Weeds as listed on the product label	Trifluralin
Capsicum (Capsicum Annuum)	PER6986	3/31/06	Cluster Caterpillar (Spodoptera Litura)	Thiodicarb
Capsicum (Field And Greenhouse)	PER7646	12/31/05	Anthracnose (Colletotrichum Spp.)	Mancozeb

Crop	Permit Number	Expiry Date	Target Pest	Active Ingredient
Capsicum (Sweet Peppers) And Chillies	PER6636	3/31/06	Fruit Flies	Trichlorfon
Capsicums	PER7076	7/30/08	Powdery Mildew (Leveillula Taurica)	Triadimenol
Capsicums, Chillies	PER7440	3/31/08	Fruit Flies (Post Harvest)	Fenthion
Carrot	PER8054	12/31/06	Sclerotinia Rot	Procymidone
Carrot Crops For Seed Production	PER7139	11/30/05	Promotion of Bolting and/or General Grass Weed Control	2,2-dichlopropionic Acid
Carrot Crops For Seed Production Only	PER6529	12/31/07	Broadleaf Weeds, Particulalry Nightshade, Fat Hen and Wireweed.	Propazine
Carrots	PER6034	4/30/08	To Prevent Spring Bolting Of Carrots	Maleic Hydrazide
Cauliflower Crops	PER8030	4/30/08	Staphylinid Beetle (Up To 3mm Length)	Alpha-cypermethrin
Cauliflowers	PER8083	8/31/05	Onion Maggot (Delia Platura)	Diazinon
Celery	PER3478	10/31/06	Helicoverpa Spp Common Army Worm (Mythimma Convecta) Southern Armyworm (Persectania Ewingii) Looper (Chrysodeixis Spp.)	Permethrin
Celery	PER4794	3/31/06	Helicoverpa Armigera	Esfenvalerate
Celery	PER5131	8/31/07	Aphids and Thrips (Excluding Western Flower Thrips)	Imidacloprid
Celery	PER5957	11/30/08	Thrips	Methomyl
Celery	PER6062	10/31/08	Control of Weeds as described on the label	Linuron
Celery	PER6325	3/31/06	Heliothis (Helicoverpa Spp.)	Spinosad
Celery	PER6417	12/31/06	Septoria Spot (Septoria Apiicola) and Early Blight (Cercospora Apii)	Propiconazole
Celery	PER6724	9/30/06	Heliothis Grub (Helicoverpa Spp.)	Bacillus Thuringiensis Kurstaki (Cyanamid)
Celery	PER7963	9/30/07	Budworm	Nuclear Polyhedrosis Virus Of Helicoverpa Zea
Chicory	PER5737	3/30/08	Grass and Broadleaf Weeds	Propyzamide
Chicory	PER8186	1/24/10	Downy Mildew	Phosphorous (Phosphonic) Acid as Mono-di K Phosphonate
Coriander	PER4489	9/30/10	Weeds as per the approved product label for Carrots and Celery	Prometryn
Corn - Seed	PER5867	9/30/07	Nematodes	Terbufos
Crop Perimeters	PER7986	9/30/06	Mice	Bromadiolone
Cucumber	PER4406	9/30/05	Western Flower Thrips (Frankliniella Occidentalis)	Pyrazophos
Cucumber	PER6793	6/30/06	Western Flower Thrips	Spinosad
Cucumber (Greenhouse And Field)	PER7815	11/30/07	Greenhouse Whitefly (Trialeurodes Vaporariorum)	Imidacloprid
Cucumber, Zucchini And Squash	PER7355	3/31/07	Twospotted Mite (Tetranychus Urticae) and Melon Thrips (Thrips Palmi)	Abamectin
Cucumbers - Greenhouse And Field	PER7418	6/1/07	Heliothis (Helicoverpa Punctigera)	Lambda-cyhalothrin
Cucumbers, Zucchini	7627	3/31/06	Silverleaf Whitefly	Buprofezin
Cucurbits	PER6144	6/30/05	Powdery Mildew (Sphaerotheca Fuliginea)	Bupirimate
Cucurbits	7301	3/31/06	Silverleaf Whitefly (Bemisia Tabaci)	Bifenthrin
Cucurbits	7628	3/31/06	Silverleaf Whitefly	Pyriproxyfen
Cucurbits	7629	3/31/06	Silverleaf Whitefly	Pymetrozine
Cucurbits	PER7642	3/31/06	Silverleaf Whitefly (Bemisia Tabaci)	Imidacloprid
Cucurbits	PER7664	7/31/05	Cucumber Moth (Diaphania Indica Saunders)	Spinosad
Domestic And Public Service Areas, Commercial And Industrial Areas, Forests And Non-crop Areas.	PER7757	10/1/05	Red Imported Fire Ants	S-methoprene
Domestic, Commercial, Industrial Areas, Government Utility and Institutional Areas	PER6948	9/30/05	Red Imported Fire Ants	Chlorpyrifos
Eggplant	PER4873	12/2/05	Heliothis Species (Helicoverpa Sp.)	Methomyl
Eggplant	PER5905	9/30/06	Aphids (Aphididae)	Pirimicarb
Eggplant	PER6650	10/16/08	Two Spotted Mites	Abamectin
Eggplant	7627	3/31/06	Silverleaf Whitefly	Buprofezin
Eggplant	7628	3/31/06	Silverleaf Whitefly	Pyriproxyfen
Eggplant	7629	3/31/06	Silverleaf Whitefly	Pymetrozine
Eggplant	PER7642	3/31/06	Silverleaf Whitefly (Bemisia Tabaci)	Imidacloprid
Eggplants	PER8331	3/31/06	Two Spotted Mites	Bifenthrin
Endive	PER8186	1/24/10	Downy Mildew	Phosphorous (Phosphonic) Acid as Mono-di K Phosphonate
Endive (Cichorium Endivia)	PER5139	9/30/05	Barnyard Grass, Summer Grass, Winter Grass, Rye Grass, Portulaca, Prince of Wales Feather, Blackberry Nightshade, Chickweed, Nettles, Shepherd's Purse and Wireweed	Propyzamide
Fruit Fly Host Species or other Suitable Foliage	ER6563	3/31/10	Queensland Fruit Fly	Dichlorvos & Maldison
Fruit Fly Host Species or other Suitable Foliage.	PER6641	3/31/10	Fruit Fly Monitoring	Dichlorvos & Maldison
Fruit Fly Lure and control in Fruit Fly Exclusion Zone	PER7364	3/31/07	Queensland Fruit Fly (Dacus Tryoni)	Maldison
Fruiting Vegetables & Fruit	PER7504	5/31/08	Fruit Fly (Bactrocera Spp. & Ceratitis Spp.)	Methyl Bromide
Fruiting Vegetables & Fruit	PER7858	9/30/06	Spiralling Whitefly	Dimethoate
Fruiting Vegetables & Fruit	PER7870	5/31/08	Fruit Fly (Bactrocera Spp.)	Methyl Bromide
Fruiting Vegetables & Fruit	PER8159	5/31/08	Fruit Fly (Bactrocera Spp.), Thrips	Methyl Bromide
Garlic	PER5510	9/30/07	Perennial Weeds	Glyphosate Present as Isopropylamine Salt
Garlic	PER5511	9/30/07	Sorrel & Thistles	Cyanazine

Current Minor-use Permits issued by APVMA as at 16 June 2005 (For Vegetables)

Crop	Permit Number	Expiry Date	Target Pest	Active Ingredient
Garlic	PER5512	9/30/07	Downy Mildew & Purple Blotch	Metalaxyl
Garlic	PER5513	9/30/07	Rye Grass & Barnyard Grass	Sethoxydim
Garlic	PER5514	9/30/07	Clover & Fat-hen	Ethofumesate
Garlic	PER5515	9/30/07	Grass Weeds	Propachlor
Garlic	PER5516	9/30/07	Downy Mildew	Chlorothalonil
Garlic	PER5518	9/30/07	Rope Twitch & Common Grass	Fluazifop-p as the Butyl Ester
Garlic	Per5519	9/30/07	Docks	Asulam
Garlic	PER5520	9/30/07	Hogweed	Pendimethalin
Garlic	PER5521	9/30/07	Downy Mildew	Mancozeb
Garlic (Allium Sativum)	PER6985	6/30/07	Broadleaf and Grass Weeds	Oryzalin
Head Lettuce	7629	3/31/06	Silverleaf Whitefly	Pymetrozine
Herbs	PER5026	9/30/06	Phytophthora	Phosphorous Acid as Mono-Di Potassium Phosphite
Herbs	PER5680	6/30/05	Lepidopteran Insect Pests (Including Cabbage Moth, Helicoverpa Spp., Cluster Caterpillar, Cabbage White Butterfly)	Permethrin
Herbs	PER7088	3/30/08	Diamond Back Moth, Cabbage White Moth, Helicoverpa Spp.	Bacillus Thuringiensis Berliner.var.kurstaki
Herbs	PER7089	12/31/06	Snails and Slugs	Methiocarb & Metaldehyde
Herbs	PER7090	2/28/06	Powdery Mildew (Oidium Spp.), Rust	Sulfur as Elemental Sulfur
Herbs	PER7091	2/28/06	Fungal Leaf Diseases Including Leaf Spot, Black Spot and Botrytis	Cupric Hydroxide
Herbs	PER7093	12/31/05	Downy Mildew, Botrytis, Alternaria Leaf Spot, Cercospora Leaf Diseases	Chlorothalonil
Herbs	PER7096	12/31/06	Thrips, Mites, Scale Insects, Mealy Bugs, Citrus Leaf Miner, Aphids	Petroleum Oil
Herbs	PER7097	12/31/06	Budworm (Helicoverpa Punctigera)	Methomyl
Herbs	PER7098	12/31/06	Silverleaf Whitefly & Melon Thrips	Imidacloprid
Herbs	PER7100	12/31/07	for the control of Weeds specified on the product label.	S-metolachlor
Herbs	PER7102	1/1/09	Grass Weeds	Fluazifop-p
Herbs	PER7103	12/31/06	Various Weeds	Linuron
Herbs	PER8093	12/31/06	Sclerotinia Rot (Sclerotinia Sclerotiorum); Target Spot (Alternaria Solani)	Procymidone
Herbs	PER7094	12/31/06	Insect Pests Including Greenhouse Whitefly, Mites, Aphids, Caterpillars, Thrips	Bifenthrin
Herbs	PER7099	12/31/06	for the control of Weeds specified on the product label.	Trifluralin
Herbs	PER7101	1/31/09	Grass Weeds	Clethodim
Herbs	PER7116	12/31/06	Grasshoppers, Red Shouldered Leaf Beetle	Dimethoate
Herbs	PER7121	12/31/06	Diamond Back Moth (Plutella Xylostella)	Emamectin as Emamectin Benzoate
Herbs - Galangal and Tumeric	PER7888	12/31/05	Insect Pests including: Heliothis (Budworms), Green Vegetable Bug, Cutworms, Vegetable Weevil	Carbaryl
Herbs - Leafy - Mizuna, Rocket and Tatsoi	PER6612	7/1/06	White Blister Rust (Albugo Candida)	Mancozeb
Leeks	PER5130	6/30/07	Grass and Broadleaf Weeds	Simazine
Leeks	PER5133	6/30/07	Grass and Broadleaf Weeds	Propachlor
Leeks	PER5135	6/30/07	Weeds	Cyanazine
Leeks	PER5770	12/31/05	Broadleaf Weeds as specified in the product label/s above, at the rates used.	Ioxynil
Leeks	PER5771	3/30/08	Various Weeds	Ethofumesate
Leeks	PER5772	3/30/08	Various Weeds	Oxyfluorfen
Leeks	PER5773	3/30/08	Various Grass and Broadleaf Weeds, as specified in the product label/s above.	Pendimethalin
Leeks	PER5774	6/30/05	Various Weeds	Linuron
Leeks	PER6308	10/10/08	Downy Mildew (Peronospora Destructor)	Dimethomorph
Leeks	PER6628	9/7/08	Downy Mildew (Peronospora Destructor)	Azoxystrobin
Leeks	PER6758	10/31/05	selected Grass Weeds as per product label	Clethodim
Leeks	6781	12/31/05	Broadleaf Weeds	Methabenzthiazuron
Leeks	8051	12/31/07	Onion Fly	Diazinon
Lettuce	PER4407	9/30/05	Western Flower Thrips (Frankliniella Occidentalis)	Methomyl
Lettuce	7301	3/31/06	Silverleaf Whitefly (Bemisia Tabaci)	Bifenthrin
Lettuce	PER7421	5/30/07	Damping Off (Pythium Spp. and Phytophthora)	Metalaxyl-m
Lettuce	PER7642	3/31/06		Imidacloprid
Lettuce	PER8141	9/30/05	Sclerotinia Rot (Sclerotinia Sclerotiorum & S. Minor)	Bosaclid
Lettuce - Prior To Planting.	PER7416	6/30/05	Lettuce Aphid (Nasonovia Ribis-migri)	Imidacloprid
Lettuce (Lactuca Sativa)	PER8207	1/24/07	Sclerotinia Rot (Sclerotinia Sclerotiorum)	Tebuconazole
Lettuce Seed	PER8045	9/30/07	Aphids and Thrips	Imidacloprid
Lettuce Seed Crop	PER5445	3/31/07	Various Weeds	Benfluralin
Lettuce Seed Crop	6745	7/28/08	Various Weeds	Benfluralin
Letuuce (Lactuca Sativa)	PER6935	12/31/07	Broadleaf Weeds, Particularly: Potato Weed and Nettles.	Phenmedipham
Okra	PER7642	3/31/06		Imidacloprid
Onion Seed	PER7197	11/30/06	Seed Dressing Neck Rot (Botrytis Allii)	Carbendazim
Onion Seed	PER8451	5/17/06	Neck Rot (Botrytis Allii) in Onions	Boscalid

Crop	Permit Number	Expiry Date	Target Pest	Active Ingredient
Onions	PER5522	9/30/10	Broadleaf Weeds	Ioxynil
Onions	PER6581	3/31/06	Botrytis Allii (Neck Rot)	Benomyl
Onions	PER7196	11/30/06	Neck Rot (Botrytis Allii)	Carbendazim
Onions	PER7534	7/31/06	Onion Thrips	Diazinon
Onions	PER7965	12/31/05	Storksbill & Various Grass Weeds	Haloxyfop
Onions	PER8450	5/17/06	Neck Rot (Botrytis Allii) in Onions	Boscalid
Onions	PER8450	5/17/06	Neck Rot (Botrytis Allii) in Onions	Chlorothalonil
Onions	PER8450	5/17/06	Neck Rot (Botrytis Allii) in Onions	Iprodione
Parsley	PER5731	3/2/08	Various Weeds	Chlorthal Dimethyl
Parsley	PER6885	6/30/07	Vegetable Weevil (Listroderes Obliquus)	Chlorpyrifos
Parsley	7602	1/1/07	Thrips (Thrips Spp.) And Western Flower Thrips (Frankliniella Occidentalis)	Methomyl
Parsley	PER8052	12/31/05	Onion Maggot	Diazinon
Parsnip	6782	10/30/05	Ryegrass, Wild Oats and Barley Grass	Fluazifop-p as the Butyl Ester
Parsnip	PER6783	9/30/05	Wintergrass	Trifluralin as their only active constituent
Parsnip	PER7816	12/31/06	Sclerotinia Rot	Procymidone
Peas	PER7606	6/30/08	Blue Oat Mite (Penthaleus Major) & Red Legged Earth Mite (Halotydeus Destructor)	Bifenthrin
Peas - Garden (Pisum Sativum)	PER7359	9/30/09	Black Spot (Ascochyta Pisi, Mycosphaerella Pinodes, Phoma Medicaginis Var. Pinodella)	Chlorothalonil
Peas - processing	PER6377	7/31/05	Various Weeds	Bentazone
Peas Green (Pisum Sativum)	PER5870	4/27/08	Various Weeds	Diflufenican
Peas - processing	PER8187	1/24/10	Downy Mildew	Phosphorous (Phosphonic) Acidmono-di Potassium Phosphate
Peppers (Capsicum, Chillies and Paprika)	PER7605	6/30/07	Powdery Mildew (Leveillula Taurica)	Bupirimate
Peppers (Capsicums, Chillies and Paprika)	PER7587	12/31/06	Sclerotinia Rot	Procymidone
Peppers (Sweet, Chilli)	PER8331	3/31/06	Two Spotted Mites	Bifenthrin
Potato	PER6585	12/1/05	African Black Beetle (Heteronychus Arator)	Chlorpyrifos
Potato	PER7510	9/30/05	Australian Plague Locust (Chortoicetes Terminifera)	Alpha-cypermethrin
Potato	PER8303	3/31/06	Silverleaf Whitefly (Bremisia Tobaci)	Imidacloprid
Pumpkin	PER5775	3/31/08	Grass and Broadleaf Weeds (as listed on the dual Gold Label for Brassicas)	S-metolachlor
Radish	PER5719	3/31/06	Diamondback Moth (Plutella Xylostella and Loopers)	Lambda-cyhalothrin
Radish	PER5767	3/31/08	Various Weeds	Pendimethalin
Radish	PER6137	12/31/08	Grass and Broadleaf Weeds	Propachlor
Radish	PER6614	6/30/05	White Rust, White Blister (Albugo Candida)	Azoxystrobin
Radish	PER6895	6/14/06	White Rust (Albugo Candida)	Chlorothalonil
Radish	PER7083	12/31/08	White Blister, Black Spot, Peppery Leaf Spot, Ring Spot, Downy Mildew	Copper present as Copper Oxychloride
Radish	Per7389	7/1/06	Alternaria Leaf Spot (Alternaria Spp), Cercospora Leaf Spot (Cercospora Spp) and White Blister Rust (Albugo Candida)	Mancozeb
Radish	PER7607	6/30/09	Lepidoptera (Cabbage White Butterfly (Pieris Rapae), Cluster Caterpillar (Spodopetra Litura) and Heliothis (Helicoverpa Spp.), Redlegged Earth Mite (Halotydeus Destructor)	Alpha-cypermethrin
Radish	PER7816	12/31/06	Sclerotinia Rot	Procymidone
Rhubarb	PER5813	9/30/05	Green Peach Aphid (Myzus Persicae), Green Looper (Chrysodexis Sp.), Light Brown Apple Moth (Epiphyas Postiuttana), Heliothis (Helicoverpa Sp.)	Permethrin
Rocket (Rucola) (Eruca Vesicaria Ssp. Sativa)	PER7903	3/30/08	Downy Mildew	Metalaxyl-m + Mancozeb
Rockmelons	PER7954	10/31/05	Fusarium Spp. & Geotrichum Spp. Fruit Rots, Alternaria & Cladosorium Spp. Blenishes and Partial Control Of Mucor/rhizopus Soft Rots	Carbendazim + Guazatine
Root Vegetables - Radish, Swede, Turnip	PER6174	11/2/07	Damping Off (Pythium Spp.) And Downy Mildew (Peronospor Spp)	Phosphorous(Phosphonic) Acid present as Mono & Di Potass
Shallots	PER5736	6/30/05	Thrips (Excluding Western Flower Thrip) Onion Seedling Maggot	Diazinon
Shallots	Per5832	3/30/08	Various Broadleaf and Grass Weeds, as specified on the labels above, for the rate used.	Chlorthal Dimethyl
Shallots	PER6916	7/21/09	Grass Weeds	Fluazifop-p
Shallots (Allium Ascalonicum)	PER7302	12/30/06	Downy Mildew (Peronospera Destructor)	Benalaxyl + Mancozeb
Silverbeet	PER5729	3/3/08	Various Broadleaf and Grass Weeds, as per the product label above.	S-metolachlor
Silverbeet	PER5734	6/30/05	Rutherglen Bug, Thrips and Looper	Lambda-cyhalothrin
Silverbeet	PER5831	6/30/06	Thrips, Vegetable Weevil and Redlegged Earth Mite	Alpha-cypermethrin
Silverbeet	PER6310	10/9/08	Downy Mildew (Peronospora Spp.)	Dimethomorph
Silverbeet	PER6752	3/31/07	Beet Webworm (Hymenia Recurvalis)	Trichlorfon
Silverbeet	PER6960	6/16/07	Downy Mildew (Peronospora Spp.)	Metalaxyl-m + Mancozeb
Silverbeet	PER7588	6/30/09	Heliothis (Helicoverpa Spp.), Looper (Chrysodeixis Spp.), Thrips (Thrips Spp.) and Western Flower Thrips (Frankliniella Occidentalis)	Methomyl

Current Minor-use Permits issued by APVMA as at 16 June 2005 (For Vegetables)

Crop	Permit Number	Expiry Date	Target Pest	Active Ingredient
Silverbeet	PER8186	1/24/10	Downy Mildew	Phosphorous (Phosphonic) Acid as Mono-di K Phosphonate
Snake Beans	PER7642	3/31/06	Silverleaf Whitefly	Imidacloprid
Snow Peas	PER7523	8/31/09	Helicoverpa Armigera and H. Punctigera	Bacillus Thuringiensis Berliner.var.kurstaki
Snow Peas	PER8089	12/31/06	Chocolate Spot and Sclerotinia Rot	Procymidone
Snow Peas And Sugar Snap Peas	PER6335	6/30/05	Downy Mildew (Peronospora Viciae) & Chocolate Spot (Botrytis Fabae)	Chlorothalonil
Snow Peas And Sugar Snap Peas	PER7354	3/31/09	Twospotted Mite (Tetranychus Urticae)	Abamectin
Spinach	PER5729	3/3/08	Various Broadleaf and Grass Weeds, as per the product label above.	S-metolachlor
Spinach	PER5831	6/30/06	Thrips, Vegetable Weevil and Redlegged Earth Mite	Alpha-cypermethrin
Spinach	PER8186	1/24/10	Downy Mildew	Phosphorous (Phosphonic) Acid as Mono-di K Phosphonate
Spinach (Spinacia Oleracea)	PER7586	9/30/08	Downy Mildew (Peronospora Spp)	Dimethomorph
Spring Onions	PER5733	3/31/08	Various Broadleaf and Grass Weeds	Pendimethalin
Spring Onions	PER5736	6/30/05	Thrips (Excluding Western Flower Thrip) Onion Seedling Maggot	Diazinon
Spring Onions	PER5832	3/30/08	Various Broadleaf and Grass Weeds, as specified on the labels above, for the rate used.	Chlorthal Dimethyl
Spring Onions	PER6281	12/30/06	Downy Mildew	Benalaxyl &mancozeb
Spring Onions	PER6778	2/28/07	Grass Weeds as per select herbicide label, including Winter Grass (Poa Annua)	Clethodim
Spring Onions	PER6916	7/21/09	Grass Weeds	Fluazifop-p
Spring Onions	PER6930	6/22/09	Downy Mildew	Metalaxyl-m + Copper As Copper (Cupric) Hydroxide
Spring Onions	PER6971	12/31/06	Downy Mildew (Peronospora Destructor) & Grey Mould (Botrytis Cinerea)	Chlorothalonil
Spring Onions	PER7565	6/30/05	Downey Mildew and Purple Blotch	Dimethomorph + Mancoxeb
Surveillance Crops	PER7003	12/31/08	To kill insects which enter insect monitoring traps.	Dichlorvos
Swede	PER6665	3/31/07	Diamondback Moth (Plutella Xylostella)	Fipronil
Swede	PER7083	12/31/08	White Blister, Black Spot, Peppery Leaf Spot, Ring Spot, Downy Mildew	Copper present as Copper Oxychloride
Swede	PER7816	12/31/06	Sclerotinia Rot	Procymidone
Sweet Potato	PER5853	9/30/07	Sweet Potato Weevil & Bean Spider Mite	Bifenthrin
Sweet Potato	PER7559	1/1/09	Green Peach Aphids (Myzus Persicae)	Pirimicarb
Sweet Potato	PER7673	1/31/06	White Fringed Weevil (Naupactus Leucoloma), Wireworm	Fipronil
Sweet Potato	PER7952	1/1/08	Aphids, Thrips, Jassids and Organophosphate Susceptible Two Spotted Mite And Wireworm	Phorate
Sweet Potato	PER8403	8/31/05	House Mice (Mus Domesticus) Only	Zinc Phosphide
Tomato	PER4402	9/30/05	Western Flower Thrips (Frankliniella Occidentalis)	Abamectin
Tomato	PER4407	9/30/05	Western Flower Thrips (Frankliniella Occidentalis)	plus other registered products
Tomato	PER4409	9/30/05	Western Flower Thrips (Frankliniella Occidentalis)	Methidathion
Tomato	7627	3/31/06	Silverleaf Whitefly	Buprofezin
Tomato	7628	3/31/06	Silverleaf Whitefly	Pyriproxyfen
Tomato	7629	3/31/06	Silverleaf Whitefly	Pymetrozine
Tomato	PER7642	3/31/06	Silverleaf Whitefly	Imidacloprid
Tomato - Gourmet Variety	PER7645	1/1/06	Powdery Mildew, Leveillula Taurica	Triadimenol
Tomato - Greenhouse	PER5890	7/1/05	Powdery Mildew (Leveillula Taurica)	Triadimenol
Tomato - Greenhouse	PER5917	9/30/08	Greenhouse Whitefly (Trialeurodes Vaporariourum)	Buprofezin
Tomato - Greenhouse	PER5919	3/30/07	Greenhouse Whitefly (Trialeurodes Vaporariourum)	Emulsifiable Botanical Oil
Tomatoes - Processing Varieties Only	PER5043	6/30/06	Blackberry Nightshade and other Weeds (as directed on the product label)	S-metolachlor
Turnip	PER6665	3/31/07	Diamondback Moth (Plutella Xylostella)	Fipronil
Turnip	PER7083	12/31/08	White Blister, Black Spot, Peppery Leaf Spot, Ring Spot, Downy Mildew	Copper present as Copper Oxychloride
Turnip	PER7816	12/31/06	Sclerotinia Rot	Procymidone
Various Vegetable Seed Crops - Sbs Seed	PER5754	9/30/07	Various Insect Pests	Various Insecticides
Various Vegetable Seed Crops - Sbs Seed	PER5755	9/30/07	Various Weeds	various herbicides
Various Vegetable Seed Crops - Sbs Seed	PER5757	9/30/07	Various Insects, Diseases & Weeds	various pesticides
Various Vegetable Seed Crops - Sbs Seed	PER8094	12/31/06	Various Diseases	various fungicides
Vegetable Matter* (Principally Brassica, Celery and Lettuce) *(Crop Residue)	PER7988	12/31/08	Stable Fly (Stamoxis Calcitrans)	Diazinon

Letters to the Editor

Vegetables Australia welcomes your feedback.

Whether you have an opinion on a current issue, or would like to comment on the magazine itself, we value your views.

Each issue we will publish the best correspondence (up to 200 words) within the pages of Vegetables Australia.

Send your letters to:

The Editor
Vegetables Australia

PO Box 563
Mulgrave VIC 3171

or email:
editor@ausveg.com.au

Calendar of events

JULY 2005

17-20 July

2005 National Australian Hydroponic and Greenhouse Industry Conference

Bundaberg Civic Centre, Bundaberg, QLD

For more information,
Tel: 07 4153 3007
Email: scott@bfvg.com.au
Website: www.ahga.org.au

AUGUST 2005

3 August

AUSVEG Board Meeting

Melbourne

4 August

AUSVEG AGM

Melbourne

11 August

9th Annual Symposium on Precision Agriculture in Australasia

University of Western Australia

Conducted by the Australian Centre for Precision Agriculture (ACPA) and the Southern Precision Agriculture Association (SPAA).

For more information, **Website: www.usyd.edu.au/su/agric/acpa/**

15 August

WA Vegetable Industry Biannual Dinner

Parmelia Hilton Hotel Ballroom

Announcement of the Bill Stevens Award of Excellence in the Vegetable Industry. The Hon. Kim Chance, Minister for Agriculture will also officiate the launch of West Australian Vegetable Growers Association (Inc) new trading name to Vegetables WA.

Presentation of Australian United Fresh Fruit and Vegetable Association Award for Promotion.

20 August

Vegetable Growers Association of Victoria (VGA) Annual Ball

Palladium Ballroom, Crown Towers Hotel & Casino, Melbourne

SEPTEMBER 2005

7-8 September

Vegetable R & D Meeting

Melbourne

11-17 September

International Cucurbit Symposium

Jupiters Hotel and Casino, Townsville QLD

The International Cucurbit Symposium offers researchers, industry and cucurbit growers a unique opportunity to hear new and exciting developments and technical information in cucurbit crop production and handling. It will cover issues such as breeding and genetics, postharvest physiology and technology, cucurbits and human health, and technology transfer with keynote presentations by cucurbit scientists and specialists from Australia and overseas including USA, Asia, Europe and the Middle East

For more information on the symposium contact Gordon Rogers,
Tel: 02 9527 0826,
Email: gordon@ahr.com.au
Website: www.cucurbitsymposium.org.au

14-17 September

Australian Melon Conference

Jupiters Hotel and Casino, Townsville QLD

Held in conjunction with the International Cucurbit Symposium

For more information contact Judy Greensill,
Email: greensill@optusnet.com.au
Website: www.melonaustralia.org.au

19-21 September

National Potato Conference

Cowes, Phillip Island, VIC

For more information contact Tony Pitt,
Tel: 03 5623 4788,
Email: tony.agchall@dcsi.net.au

27-30 September

Australasian Postharvest Horticulture Conference 2005

Royal Lakeside Novotel, Rotorua, New Zealand

Held in New Zealand or Australia every 2 years, this conference updates participants from research and commerce on the latest developments in postharvest horticulture.

The conference will cover all aspects of postharvest science and technology, including preharvest to postharvest; postharvest quality; molecular biology and physiology; supply chain management and traceability; shipping and handling; postharvest pathology; disinfestations; food safety; nutrition and health; and marketing.

Early registrations close 29 July 2005.

For more information, contact Don Brash
Email: brashd@crop.cri.nz
Website: www.crop.cri.nz/home/conferences/aphc2005/index.jsp

NOVEMBER 2005

4-8 November

Fresh Summit, PMA's Fresh Summit International Convention & Exposition

Atlanta, Georgia, US

For more information,
Website: www.pma.com

8 November

AUSVEG Board Meeting

Adelaide

9 November

AUSVEG Levy Payers Meeting

Adelaide

MAY 2006

10-12 May

Australian Vegetable Industry Conference

Brisbane Convention and Exhibition Centre, Brisbane QLD

For more information,
Website: www.vegieconf.com

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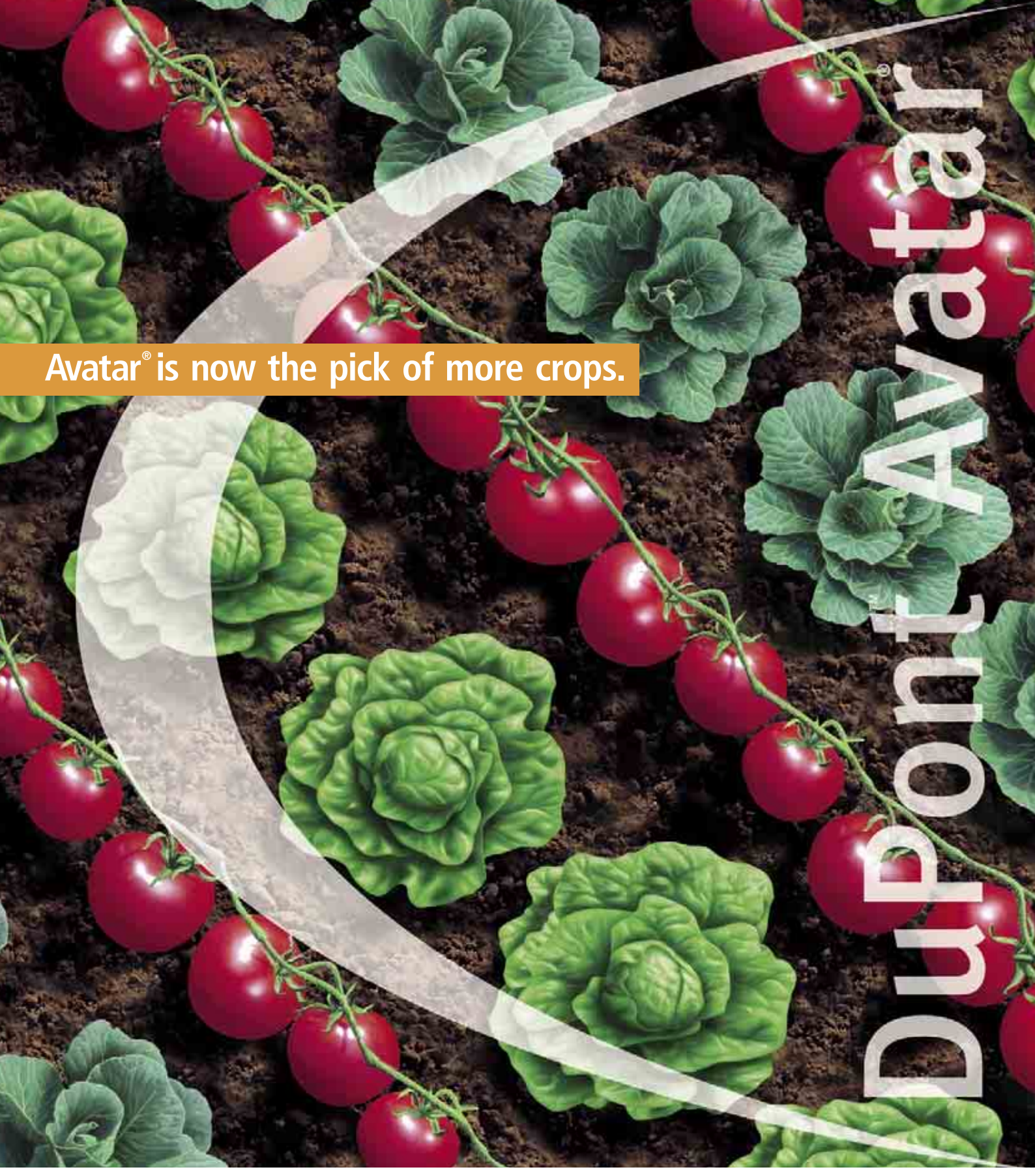

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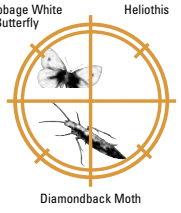

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