



# Citrep

Issue #45 • September 2006

Newsletter of the Murray Valley Citrus Board

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Robert Mansell

## Chairman's Report

### Welcome to the September 2006 edition of Citrep.

Spring is here again, but the volume of Navels has been significantly reduced due to the frost events of May and June. Consequently, shipments to export markets such as the USA etc have been cut back and in most markets supply has almost matched demand.

No fruit has been exported to China through official channels, from the southern citrus regions, but I believe there is fruit going through the grey channel. Queensland has sent some Murcotts, as they are free of Fuller's Rose Weevil (FRW). We will be interested to see how their fruit out-turns.

Southern exporters and packers are not prepared to take the risk of failed containers in China. The protocols need to be re-negotiated to be realistic and workable. This will be difficult unless we actually export fruit and hope it gets through. If it fails, then we have a case to put to the Chinese in negotiating changes, to make sure that Australian oranges from the southern regions can be exported.

For a trial shipment of fruit to China, we need to find a property that has a low risk of FRW. We also need to present fruit to AQIS that is free of FRW, to at least have a chance of getting it past the inspectors. (AQIS is very particular and you need to pass the test and pass AQIS.)

If any grower believes that their property is free of FRW and is prepared to supply fruit for this trial, please contact the MVCB. However, the property needs also to have been inspected for Chinese export.

The MVCB, along with the South Australian Citrus Industry Development Board and Riverina Citrus, have spoken to the Minister

for Trade, Mark Vaile and the Minister for Agriculture, Peter McGauran to explore some way to underwrite containers to China.

The Ministers believe there is a mechanism that government can use to help industry. The MVCB is aware that there is a short supply of quality fruit available this season since the frost event, but if we wait until next year to do these trials, we will have to wait another year for access to China. It is important, therefore, to send a test trial this season.

*Addendum: Closer examination of the body, Economic Financial Insurance Corporation (EFIC) that was suggested to undertake the underwriting role indicates this can't be done, however, if we can get a consignment of fruit that is clear of Fuller's Rose Weevil (FRW) then in lieu of underwriting, the Federal Government will provide resources at the destination point to assist with any discharge and quarantine issues that may arise in China.*

*Minister McGauran has further indicated that he is considering allocating resources to assist industry in dealing with FRW, eg funds towards relevant research.*

*In anticipation of the offer that will go to Australian Citrus Growers Inc, MVCB has taken the following actions:*

- 1 Desk top audit of FRW research.
- 2 Seeking to meet with the last researcher to work on FRW.
- 3 Conference to discuss the distribution and prevalence of FRW with growers and pest monitors in the hope of finding somewhere in the Board region where FRW populations present less of a risk.

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Cont'd...

## Chairman's Report *Cont'd...*

### The Possibility of Exceptional Circumstances Funding for Frost Affected Growers

The MVCB, South Australian Citrus Industry Development Board and Riverina Citrus are seeking to apply, under tri-state, for assistance to those growers in our region who have been adversely impacted upon by the recent frost event. The frost was widespread throughout the region but was locally severe. Where some properties were untouched, others ranged from minor to extensive damage. Given the overall impact on production, decreases of 5% to 40% depending on region are predicted. The Boards believe we have a good case for exceptional circumstance (EC) funding. Our only concern is the timeframe for agreement of assistance but we will be pushing hard. The case has to be put by State Governments to the Federal Government which funds 90% of any claim.

### Crop Forecast Update

The MVCB has updated its crop forecast, taking into account the low growth in fruit size during February and March, and the recent frost event. The original forecast of 100,750 tonnes of Navels has now been reduced to 93,804 tonnes.

With supply more than equalling demand for the late season Navels, hopefully this will equate to better returns for growers. The MVCB will continue to monitor the situation closely.

**Robert Mansell** Chairman MVCB



John Tesoriero

## Chief Executive's Report

Fruit Fly control is a significant issue in the Murray Valley Citrus Board's (MVCB) overall operations. Currently, there is an initiative in progress that would see the Murray Valley region split into three sub-zones within the existing Fruit Fly Exclusion Zone (FFEZ)

The Board had meetings twelve months ago with international partners including Taiwan about area freedom from Queensland Fruit Fly (QFF). Their major concern in granting area freedom was the need for the region to be free of a single fly detection for a twelve month period.

It was difficult for Taiwan to grant this status to the Murray Valley because in all international trading protocols, the Murray Valley region stretches from South Australia through to Wangaratta (which is not within the current FFEZ) and on both sides of the Murray River.

The suggestion from Taiwan was that our region needed to be broken up into manageable areas for them to consider fruit fly area freedom for the Murray Valley.

The Department of Primary Industries in Victoria has recently developed a discussion paper to examine a number of options.

These are:

- 1 Maintaining the status quo
- 2 Breaking the area up into three zones
- 3 Treating the existing Fruit Fly exclusion zone as a single Pest Free Area (PFA).

The MVCB 's clear preference is for breaking up the area into three PFAs within the current boundaries of the FFEZ.

Each PFA would be based on:

- Geographical isolation from each other (minimum separation of 5 kilometres);
- Composition and distribution of commodities in the area;
- Ability to function as a separate PFA;
- Limited entry points; and
- Historical trapping data.

A meeting was held on 27 July, 2006 with DPI Victoria and NSW together with other stakeholders concerning the issue.

Advantages, as we see them, would be:

- Greater potential to achieve and maintain area freedom status;
- Enhanced level of fruit fly exclusion through enforceable measures, eg random mobile roadblocks;
- Relative isolation from other QFF affected areas within and outside the FFEZ;
- Potential to engage local communities, councils, residents, growers and packers, and government agencies to manage fruit fly operations within the PFA; and
- Maintenance of existing trade agreements (NZ, USA) whilst developing new markets.

The process will involve consultations with the Australian Quarantine Inspection Service (AQIS) and BioSecurity Australia (BA), and result in the development of a submission to Government.

In our initial discussions with AQIS and BA they indicated that the process could take twelve months to come to fruition, as they will need to enter into detailed discussions with our international trading partners.

A major benefit of gaining area freedom status is that the fruit would arrive at its destination in a much fresher state (cold disinfestation would not required). Reduced cost is another benefit (producers would no longer incur cold disinfestation costs of approximately \$4 per case).

Looking to the future, a national strategy for fruit fly is to be established which will address issues such as market access, research and development, public awareness, training, policy and operational regulatory functions and it is important that common linkages continue.

A viable, cost effective and sustainable national approach to fruit fly management could place Australia at the forefront of international biosecurity.

**John Tesoriero** Chief Executive

# Creating Our Future

## Setting direction for industry strategic planning.



Brian Ramsay, Project Consultant for Concept Consulting Group Pty Ltd.

Australian Citrus Growers (ACG) has commissioned a major project, titled 'Creating Our Future: a national citrus strategy'. Operating in partnership with the Australian Government Department of Agriculture, Fisheries and Forestry (DAFF), the project aims to develop a focussed national strategic plan that will assist the industry to take charge of future directions.

ACG Executive Director, Judith Damiani said: "ACG and its members have recognised that creating a strong national strategic plan that concentrates on commercial outcomes for the industry, especially growers, is likely to involve changing structures, processes, systems and people."

Ms Damiani said ACG had accepted the challenge and would confront the tough issues that emerged in aligning these factors with today's rapidly changing citrus industry environment."

Beginning in 2005, under the DAFF-funded Industry Partnerships Programme, the Australian citrus industry participated in the industry study 'Taking Stock and Setting Directions'. This study identified a number of key issues that impacted upon the industry's competitiveness - leadership; clarification of roles; strategic direction; communication; and the need for capacity building.

Ms Damiani said: "The project, 'Creating our future: a national citrus strategy', is the next step in this process."

She said the ACG aimed to develop a coordinated strategic direction for the industry in order to improve leadership, coordination and communication.

The project is being funded by a \$350,000 'Action Partnerships' grant - also part of DAFF's Industry Partnerships Programme. 'The first stage will set the future direction for the industry and includes a skills and resource audit across ACG, grower and state statutory organizations, as well as a task to

identify a range of capacity building initiatives. In the second stage some of the capacity building initiatives will be implemented', she said.

Ms Damiani said that Concept Consulting Group Pty Ltd, which had extensive experience in strategy formulation and execution in the private sector, had been commissioned to implement the first stage of the project.

Concept Consulting Group Project Consultant, Brian Ramsay, said he was looking forward to working with the industry to develop strategies that would make a real difference.

'A communications plan is currently being designed to ensure wide industry involvement in the development of the strategic planning. This industry involvement is critical to the plan to make sure it is practical and focussed on the areas likely to deliver lasting results for the industry,' he said.

Mr Ramsay recently visited a number of citrus orchards and packing sheds in the Sunraysia and Riverland regions. He also met with industry groups and key supply chain stakeholders. A literature review of ACG and citrus industry reference material and reports has been completed.

Mr Ramsay discussed development of the strategy with a number of key stakeholders within the Australian citrus industry and found certain topics and issues continuing to appear.

'The people I have met with so far have some common views on what needs to happen and this strategy aims to pull this information together and implement measurable outcomes,' he said.

'An essential part of the project is to gain a perspective of the whole industry to ensure the initiatives proposed in the strategy will make a difference and create benefits to the whole industry.'

### Next Steps

- Meet with regional focus groups
- Continue consultation with key stakeholders
- Develop a draft Strategic Plan and recommendations

A one-page draft plan has been developed and will be utilised at the regional focus group forums currently being scheduled.

'Creating our future: a national citrus strategy' commenced in early June and will be completed by October. Information regarding progress and opportunities to contribute to the plan, including dates for the focus groups, will be available through the ACG website: [www.australiancitrusgrowers.com](http://www.australiancitrusgrowers.com).

**For further information contact:**  
**Australian Citrus Growers**  
**Phone: 03 5023 6333**

# Auscitrus

## Australian government's regional partnerships program 'Helping the Citrus Industry'.



Mr Don Carrazza, Chairman, SACC

The Australian Citrus Propagation Association (Auscitrus), located in Dareton NSW, has received \$618,200 (GST incl) under the Australian Government's Regional Partnerships program.



The Federal Member for Farrer, the Hon. Sussan Ley MP recently announced approval of the Auscitrus project, following several months of behind the scenes work by Auscitrus management and Sunraysia Area Consultative Committee (SACC) staff. The funding will be used to support redevelopment of the Auscitrus seed and budwood facilities on a 13 hectare property at River Road, Dareton, NSW. It will assist with infrastructure costs including the building of new shedding and nursery structures, irrigation systems, an office complex, and machinery purchases. The total cost of the project is in the vicinity of \$1.4 million.

Mr Don Carrazza, Chair of the SACC, said that he was proud to be involved in the development of such a great project and commended the Federal Government through its Regional Partnerships program for its support. "This Auscitrus project is exciting for our region and a great asset for the entire Australian citrus industry" Mr. Carrazza said.

Auscitrus is recognised world wide as a leader in the field of citrus improvement. It is a national not-for-profit organization, set up to handle citrus varietal improvement on behalf of the Australian Citrus Industry. A key component of this work is the production and distribution of citrus propagation

material (seed and budwood) of known high health status, to supply Australian nurseries and orchardists. This function ensures the Australian Citrus industry is protected from debilitating citrus diseases, which can otherwise be transmitted in propagation material and is one of many factors contributing to the high production efficiency of Australian citrus orchards.

Auscitrus had already received funding through a HAL grant to commission business plans and start work on the general infrastructure, and at this time all business plans, development budgets and property layout plans have been completed. As well, Auscitrus will reinvest retained profits from its seed and budwood operations into the development, helping to ensure long term sustainability of the seed and budwood scheme.

The property at Dareton, has been identified as being appropriate for Auscitrus needs. Soil surveys have shown there are suitable areas for citrus seed and budwood field plantings. It was previously used for horticultural research by the CSIRO, and was originally a vine nursery supplying planting material to the Coomealla irrigation area. It has been offered as a private treaty sale, based on an agreed market value. It has been boundary surveyed, it's subdivision approved

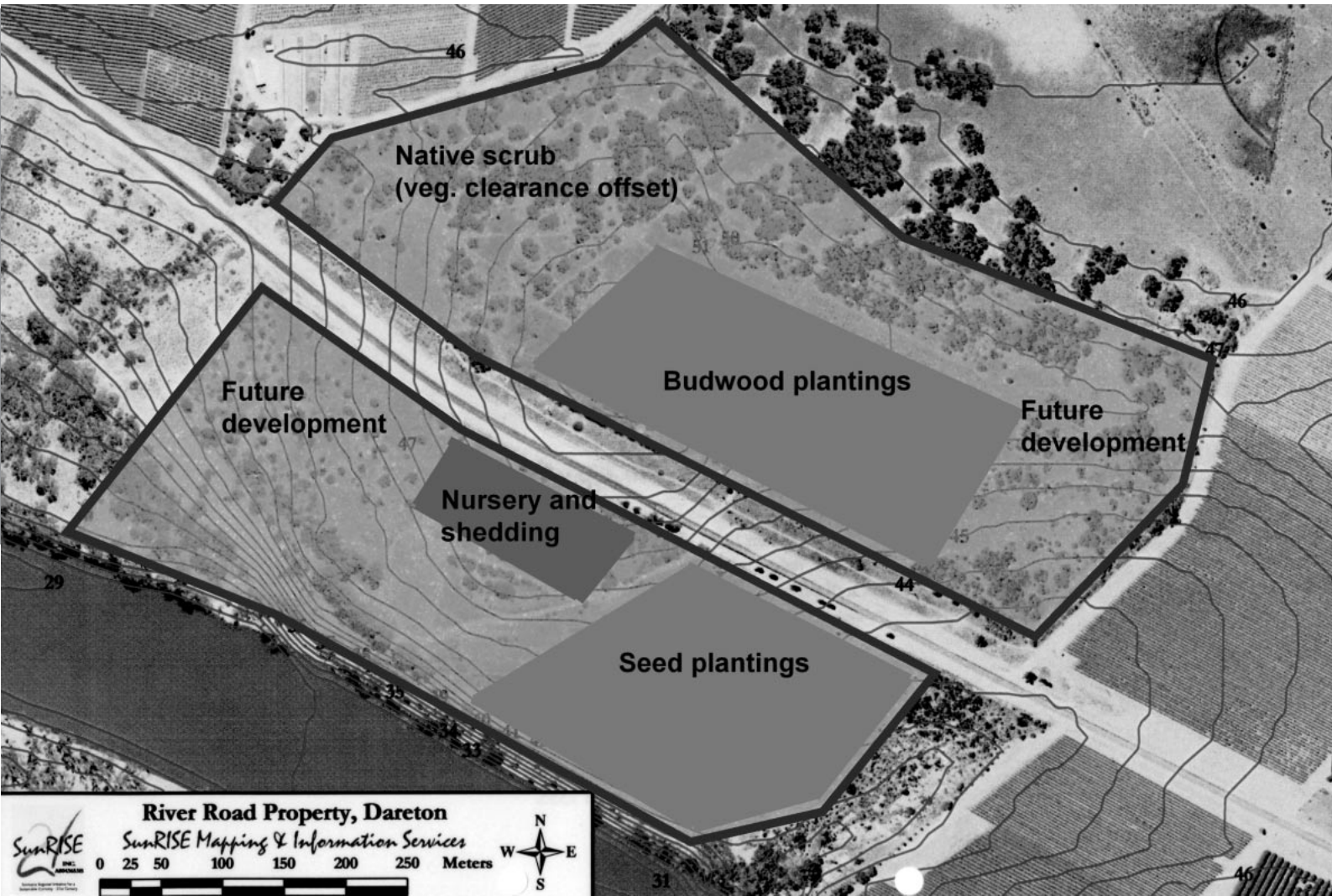
by Wentworth Shire and the Department of Lands are in the process of drawing up a title for transfer to Auscitrus. A permit to irrigate and pump from the river already exists on the land (from CSIRO's tenancy), and a high security water entitlement has been purchased by Auscitrus. Designs and quotes are complete for the irrigation systems, nursery structures, shedding and office facilities, and all associated infrastructure work.

It is hoped that ground works will commence this spring, with initial planting to commence in the spring of 2007. The field plantings will take several years to become fully productive and enable the phase out of existing plantings, although benefits from increased rapid multiplication budwood production should be evident by Autumn 2007.

Auscitrus would like to thank all of its member bodies for supporting this development and funding application:

- Australian Citrus Growers Inc
- Citrus Growers of South Australia
- NSW Farmers' Federation
- Nursery and Garden Industry NSW & ACT
- Nursery and Garden Industry Qld
- Growcom (rep. Queensland Citrus Improvement Scheme and Qld Citrus Growers)





- Riverina Citrus
- South Australian Citrus Improvement Society
- Sunraysia Citrus Growers
- WA Fruit Growers Association Citrus Council

with support from:

- Mr Peter Black OAM BSC MP, NSW Member for Murray Darling
- The Hon. Sussan Ley, Federal Member for Farrer
- The Hon. Tony Kelly ALGA MLC, NSW Minister for Lands
- Staff at Dept Natural Resources, Dubbo and Buronga, NSW
- Sunraysia Mallee Economic Development Board
- Sunraysia Area Consultative Committee (SACC) and staff, Tom Crouch and Jenny Neaves

The purchase and development of a suitable, industry owned property, for seed and budwood production has been on the Auscitrus agenda for many years, with activity increasing significantly in the past 2-3 years. The decision to redevelop the plantings on independently owned property, was based on several factors including:

- The need to expand and redevelop the varietal mix of existing plantings to satisfy industry demand for seed and budwood
- An urgent need to expand and modernise the budwood rapid multiplication facility for production of budwood of new varieties
- The desire to be able to control production costs
- Concerns over long term security of plantings on government land

Auscitrus supplies seed and budwood of all of the commercially significant citrus varieties available publicly, and has agreements with several private variety managers for the supply of budwood of varieties subject to Plant Breeders Rights and/or patents.

There are approximately 2000 trees of 96 different varieties/clones planted on the NSW DPI research station at Dareton, NSW. A supplementary seed supply is provided by the South Australian Citrus Improvement Society (SACIS) plantings at Monash, SA, and budwood of common oranges is sourced from the NSW DPI research station in Griffith, NSW. Seed plantings at Gosford NSW have previously been used but this source is being phased out, with the goal to centralize all operations at Dareton, NSW.

Auscitrus has had a long-standing and successful arrangement with NSW DPI for the production of seed and budwood, with the first trees being planted on the Dareton Research and Advisory Station in 1967. Auscitrus and NSW DPI currently operate under a Deed of License, which allows for NSW DPI land, labour and equipment to be used to produce seed and budwood for Auscitrus, on a cost recovery basis. This Deed still has some years left to run, and it is hoped a new agreement can be negotiated to continue maintaining some of the plantings on the Research Station well into the future.

A key function of Auscitrus is the evaluation of new varieties. This work is currently carried out for Auscitrus by Graeme Sanderson of NSW DPI at Dareton and sites around Australia, funded by industry through HAL. This critical work will remain with NSW DPI to allow scientifically sound and independent evaluation of new citrus varieties, while maintaining close industry involvement through Auscitrus.



Jeremy Giddings

# Monitoring Water Requirements In Spring and Early Summer

Proper irrigation scheduling in spring can be a challenge to all irrigators, particularly those who have not adopted the appropriate monitoring tools or received training in irrigation management. Irrigations in spring are challenging because water demand steadily increases, while at the same time variable weather conditions further complicate irrigation decisions.

It is important to recognise that during spring the most active part of the rootzone is close to the surface, generally in the top 30 cm. Citrus growers adopting accurate soil moisture monitoring tools have identified this and adjusted their irrigation management accordingly. Improved tree health and some water savings have occurred as a result. During summer the full rootzone depth should be monitored (usually 80-100cm, but will vary depending on actual rootzone depth). However, during spring, soil moisture should be more closely monitored at this relatively shallow depth to determine irrigation timing.

Efficient irrigation during this period can be difficult to achieve, particularly if adequate moisture monitoring tools are not adopted. Irrigation demand steadily increases from September to December, requiring changes to the depth and interval of irrigations. As mentioned previously, the NSW Department of Primary Industries has for many years monitored the water use of various crop types. One of these sites is a patch of mature Washington Navel trees at Coomealla, irrigated with full cover, low level sprinklers. As an example of this steadily increasing water requirement, the trees at this site have required only one irrigation per month from July to September. This increased to three irrigations in October, and four in November to December.

In addition, the soil moisture monitoring at this site highlighted the following;

- In September of the first year of monitoring, this shallow water use was not recognised and the top 30cm was allowed to dry out too much.
- Minor water use around 50cm began in early October in each season.
- Significant water use from 50cm to 80cm began in early to mid-November in each season. Therefore, this period received larger irrigation applications, as well as a closer irrigation frequency.

Knowing the varying depth at which water use is occurring is very important not only for irrigation management, but also fertigation management. As mentioned in previous articles this knowledge is seen as necessary for high-level citrus production, and adoption of such technology is becoming standard practice for many high value crops.

**Jeremy Giddings**  
Irrigation Officer, NSW Department of Primary Industries, Dareton

## NET BAG SUPPLIES

Murray Valley packers are advised that supplies of generic Navel, Valencia, Grapefruit and Imperial Mandarin net bags are available through the Board office.

Stocks of net bags are offered as follows:

3 kg net bags (1000 nets to a box)  
Navel / Valencia / Grapefruit  
\$178.75

1.5 kg net bags (1000 nets to a box)  
Navel / Valencia / Grapefruit  
\$178.75

1.5 kg net bags (500 nets to a box)  
Imperial Mandarin  
\$89.38

Further information may be obtained by contacting Kerry Needs at the MVCB office.

Telephone 03 5051 0500



# MVCB Annual Consultative Meetings



Robert Mansell introducing the Consultative Meetings.



Frost damage to local citrus.

The purpose of the Annual Consultative Meetings was to provide an opportunity for levy paying members to be briefed and vote on the MVCB's proposed programs for 2006/2007.

Two Annual Consultative Meetings were held. The first, at Barham on Tuesday 13 June 2006 was followed by the meeting in the MVCB boardroom, 58 Pine Avenue, Mildura on Wednesday 14 June 2006.

Mr Robert Mansell, Chairman, MVCB, introduced the Mildura meeting by giving a comprehensive progress report on the current 2005/2006 activities of the Board. He commented that the past twelve months had probably been the toughest in the history of citrus in the Murray Valley. 'Never before have we seen such large volumes of fruit dumped into paddocks, and returns from the markets for lesser grade fruit being sold at prices that gave growers a substantial bill!

In this context, he then outlined several options or challenges. Mention was made of the topical issue of frost and likely damage.

'At this stage I am concerned for the industry. We don't want another 1982!'

Mr Mansell concluded by stating that Australia produces less than 1% of world citrus production, but the MVCB would continue to strive for better returns for growers. 'However, growers must follow the fruit through the chain; remain not just growers but marketers who demand performance.'

Mr John Tesoriero, Chief Executive, MVCB, then outlined the Plan of Operations and Budget, 2006/07, assisted by a power point presentation.

Considerable discussion occurred during and after the two main agenda items. The positive outcome from a well-run meeting was that all the Board's proposed programs for 2006/2007 were approved.

## 2006/2007 PROPOSED PROGRAMS

### General Resolutions

- 1 For the purpose of the Murray Valley Citrus Board's (MVCB) budget, the Board has based its budget calculations on a leviable crop forecast for 2006/07 of 148,170 tonnes.
- 2 In formulating the budget for funding the proposed programs in 2006/07, the Board anticipates a reserve at the end of the 2006/2007 financial year of approximately \$750,000 based on the current levy of \$5.50 per tonne. The Board seeks approval of this financial estimate.
- 3 Some programs include co-funding from other sources that in some cases are yet to be approved. In the event of a funding shortfall and if the Board considers it essential that the full funding of the program continues, they seek approval to fund such a shortfall from general reserves held by the MVCB of an amount up to the budget for each program(s).

PROPOSED PROGRAMS	Total Budget	MVCB Levy Component
1.1 Greater uptake of best practice and innovative technology	\$236,646	\$76,561
1.2 Provide high quality industry data	\$186,186	\$172,634
1.3 Development of generic and targeted promotional strategies	\$106,831	\$103,646
1.4 Risk minimization strategies for growers	\$19,880	\$19,288
2.1 Plan, fund and facilitate market development and maintenance	\$144,382	\$140,077
2.2 Instigate market driven research and development	\$31,603	\$30,661
2.3 Liaison with other industry organizations	\$39,567	\$38,387
2.4 Promote industry awareness of required management and accreditation systems	\$134,475	\$111,465
3.1 Effective leadership and advocacy	\$91,534	\$28,805
3.2 Focusing on customer satisfaction	\$66,131	\$62,160
3.3 Excellence in corporate governance	\$32,212	\$31,251
<b>TOTAL</b>	<b>\$1,089,447</b>	<b>\$814,935</b>

PROJECTED INCOME 2006/07	Total Budget	MCB Levy Component
Levy Income	814,935	814,935
CITGroup Funding	51,029	
IDO Funding	102,000	
Other	53,308	
Promotional Projects	6,695	
Finished Goods	79,000	
	7,670	
<b>TOTAL</b>	<b>\$1,114,637</b>	<b>\$814,935</b>

Full details and overheads that accompanied the power point presentation are available from the MVCB office (Ph: 03 5051 0500) to interested industry members.

E. Warhurst Compiler

# Peter Smith of Sunraysia Nurseries

Robert Mansell, Chairman, MVCB believes that like many with a close association with the citrus industry, Mr Peter Smith of Sunraysia Nurseries has a story well worth telling.

This is Peter Smith's story.



In 1928 Peter's father migrated to Australia at the age of eighteen, together with his older brother, to become sheep station jackaroos and later fencing contractors.

Peter was born in 1933. His mother and father worked on blocks in Cardross and Red Cliffs during the great depression. As a sustenance labourer, Peter's father found work hand digging and installing tile drains in vineyards and supplementing the family income on days when work was not available, by clearing Mallee stumps from farm land and selling them. His mother worked picking grapes, peas and beans.

The family left the Mildura district in 1937 in pursuit of work.

Neil Eagle acknowledges that he has known and been a close friend of Peter Smith for almost 60 years. 'We first became acquainted in the mid 1940's as boarders at Haileybury College in Melbourne.'

Peter relates that his desire to be a horticulturist was born while holidaying with his very close friend and school mate Neil Eagle, on Neil's family farm at Barham; 'a citrus grove with a heavenly scent in Spring and a most appealing life style.'

Peter graduated from Burnley Horticultural College in 1951. His father's advice was 'son if you want to be a horticulturist go to Sunraysia where the soil is so good that given irrigation water it will sprout billiard balls.'

Neil Eagle states: 'After his course at Burnley Horticultural College, Peter took up a position as a Technical Assistant at the CSIRO in Merbein in 1952. His parents purchased the general store at Carwarp, near Mildura in Victoria. He played football for Mildura Football Club in those early years in Sunraysia and was a star rover for the team.'

Peter Smith makes some interesting observations regarding his time with the CSIRO:

'The CSIRO was my first and only employer - a truly worthy experience - being exposed to scientific thinking and great team work. The old adage 'if ya don't measure it ya don't know noth'in about it' is a principle I have adhered to throughout my career.'

'In the spring of 1952 I developed a small, part time, plant nursery on three 'college lease' house blocks adjacent to my lodgings in 10th Street Mildura, and commenced propagating citrus trees, deciduous fruit trees and roses. As well, I worked at Gugger's Mildura Nursery (Floral Dell) on Saturday mornings, which generated pocket money, allowing savings to accumulate from my salary.'

'I was fortunate to work as a 'budder' in my spare time with Mr. Ivan Wiffen of Nangiloc, the foremost local citrus nurseryman of that era. He was a great mentor.'

'During my time at the CSIRO, I was given the responsibility of establishing a plant production nursery, to service the requirements of research projects conducted by any of the research sections at the station. To the best of my knowledge, the CSIRO Merbein, installed the first 'electronic intermittent mist propagation unit' in Australia in the mid-1950's, imported from the English Institute of Agricultural Engineers.'

'In my early years at the CSIRO, a group of us, during our lunch time break, whilst hallowing the enormous vision of our forefathers, the Chaffey Brothers, discussed how we might engage in the development of a Botanic Gardens in the Sunraysia Region. Our proposed aim was to increase the biodiversity of the flora grown in the Region and display the wonders of the indigenous xerophytic flora to the world. We shelved the idea until we were all a little older and wiser.'

'The selection of genetically superior fruiting plant cultivars of high health status, together with plant improvement hybridizing projects conducted by research officers at the CSIRO, were the inspiration for my involvement, as a nurseryman, in supporting and serving on many industry based organizations. The list includes the Australian Citrus Propagation Association (now Auscitrus), the Victorian and Murray Valley Vine Improvement Association, the Avocado Nursery Accreditation Scheme, the Australian Vine Improvement Association and Accreditation Scheme, all of which multiply and distribute



# Sunraysia Nurseries

Left -Right Peter and Lois when they first started in 1952.  
The first planting machine for cuttings.  
Peter and Lois at Sunraysia Nurseries today.  
Background First shed - called a bough shed.



the best possible selected propagules, through plant nurseries, to the fruit growing industries of Australia. As well, I joined with eleven other commercial nurseries Australia wide, in the development of the Australian Nursery Fruit Improvement Company. This group is devoted to the importation of improved cultivar selections and new hybrids from around the world and within Australia, linking research with dedicated plant production, fruit production and fruit marketing within Australia!

In 1961, the opportunity presented itself for the Smiths to expand their small, three house block nursery in Mildura, Victoria, to a full time occupation. 'We purchased a 36 acre farm at Gol Gol, New South Wales, through the development of a partnership with Ron and Janice Vine (Ron later became Mildura Shire President) and a very large order of citrus trees from my old school mates, the Eagle family of Barham, NSW.'

*Again Neil Eagle makes the following comments:*

'While at the CSIRO Merbein, Peter indicated his desire to become a Wholesale Nurseryman. Our family gave him some assistance to purchase the land where Sunraysia Nurseries now stands, by putting money forward as pre-payment for citrus trees that he would propagate for us in the future.'

'This, coupled with his natural green fingered flair, his unique ability in business commonsense and intuition and most importantly the ability to ignite his permanent and casual staff with the same amount of enthusiasm and vision, has made the Sunraysia Nurseries business the very successful enterprise it is today, providing employment for up to 100 people.'

**'I consider Peter to be the ultimate 'green fingers', and I have never seen anybody so suited to the profession he has chosen.'** *Neil Eagle.*

*Peter explains the development of the Nursery in his own words:*

'My wife and life long plantsman soulmate Lois, and I, fenced our new property during the Easter Holidays of 1961 and commenced clearing the land with our first tractor, a kerosene fueled Fordson. This 'draw bar only' tractor, served to till the land during the daylight hours and pump irrigation water during the night, using a belt driven pump on the Murray River at Punt Road, Gol Gol, where the river punt crossed the Murray, prior to the building of the Old Mildura Bridge.'

'In 1962, I resigned from the CSIRO as a Senior Technical Officer, to achieve my lifetime ambition of becoming a full time professional nurseryman. It was a shock to become a lonely farmer; I dearly missed the wonderful mental stimulation of my work colleagues at the CSIRO.'

'As per our partnership agreement, we bought out our partners' interest in our business in 1971 and expanded the nursery to include an 80-acre property in Trentham Cliffs, NSW. Our Gol Gol property was devoted exclusively to container grown nursery production.'

'During the 1970's we joined all industry associations in which we were interested, such as the Australian Nurserymen's Association, the NSW Nurserymen's Association, the Australian Citrus Growers Federation, the Murray Valley Wine Grape Growers Association, the International Plant Propagators Society (IPPS), the Sunraysia Avocado Growers Association; attending as many conferences as we could afford in terms of time and money, all the while gaining more knowledge and experience.'

'During that same period I accepted the responsibility of chairmanship of Mildura Golf Club greens committee, and served under Mrs Kay Gambetta, on the Sunraysia Apprenticeship Board, representing the craft of horticulture.'

'By the 1980's, the nursery again outgrew its land confinements. In order to maintain good soil management practices of crop rotation using lucerne as a soil conditioner and Indian mustard as a nematocidal biofumigant, we moved our field growing nursery operation upstream, in the pursuit of good irrigation water, to a 145 acre farm at Wemen, Victoria. We also opened our Sunraysia Garden Centre on our Gol Gol, NSW, property.'

## Peter Smith of Sunraysia Nurseries *Cont'd...*

In 1981, Peter Smith became President of the Australian Region of IPPS and in 1982 was elected as Australian representative to their International Board. 'Lois and I traveled to Hawaii to attend an IPPS conference and international board meeting. Whilst there we visited the brand new 'Pacific Botanic Gardens', which were being developed through patronage, as opposed to operating as a government instrumentality. We brought this concept back to our CSIRO colleagues, who accepted the idea and the principle behind it. We ran the idea past Mrs Kay Gambetta, the former Mayor of Mildura City Council and Chairman of the Develop Mildura Committee. Kay drove the concept forward with typical tenacity.'

Kay Gambetta called a public meeting and a Botanic Gardens Steering Committee was formed in 1983.

Mr Ken Mansell, the present Chairman of the Australian Inland Botanic Gardens, (AIBG) acknowledges that Peter Smith was instrumental in the establishment of the AIBG. 'Peter has been the Honorary Director of the AIBG since the early stages of its development. He has been the constant inspiration and encourager of the many volunteers who bring so many skills to the organization.'

'He has always striven to make the AIBG a world-class feature and has been the driving force in maintaining its integrity in not allowing it to become some form of park or memorial gardens.'

Also in 1983, Peter was invited to join a consultancy firm and engage in an Australian Development Abroad Bureau (ADAB) Citrus Industry Project in China. He was required to develop a 'container grown citrus tree nursery' on a commune in the province of Hunan, the birthplace of Chairman Mao, under whose reign the gene bank of China's citrus industry was destroyed.

'It was a great experience working with Australia's leading citriculturists and learning heaps from dedicated Chinese plantsmen. There was no language barrier; we spoke through our craft with total comprehension. Sweet oranges (*Citrus chinensis*) are indigenous to China and they have been cultivating them for four thousand years, while we Australians have been growing them for two hundred years!'

Peter Smith's knowledge and experience was noted by those around him, and in 1984 he was invited to join the Murray Valley Citrus Marketing Board at a time when 'single desk export selling' was a contentious issue and Australian fresh fruit markets were most viable.

In 1985, Peter was invited to join the inaugural board of the Horticultural Research Development Corporation (HRDC). 'I regard this as being the highest office to which I have contributed, for the benefit of Australian Horticulture. The board authorised expenditure on research projects proposed by providers such as the CSIRO and State Departments of Agriculture, on a dollar for dollar matching basis with contributing horticultural industries.'

In a further expansion of their business, Peter purchased an extra 100 acres of adjacent land at Wemen in 1990, to enable a six-year rotation of one-year field nursery with four and a half years lucerne and half a year Indian mustard.

The Australian Inland Botanic Gardens steering committee secured 350 acres (140 hectares) of land in the Boeil Creek area of Sunraysia in 1991, as a gift to the Sunraysia community from the McLeod family (graziers of Wentworth). This enabled the first plantings at the Australian Inland Botanic Gardens to commence, 38 long years after the idea was first conceived!

Peter was invited to serve on the Murray Darling Water Management Action Plan (MDWMAP) Steering Committee in 2001, with the responsibility of authorizing expenditure on research projects, to the benefit of water management in the Murray Darling Basin.

In 2005, at the age of 72, Peter and Lois negotiated a 'management buyout' of Sunraysia Nurseries with their 'in-house company accountant', Corey Jessup and his wife Belinda. 'This of course was the biggest business decision of our careers and it achieved two essential aims. First, it secured the careers of our workmates - there being no new broom to sweep clean - and second, it secured the ongoing service to our large clientele, as our code of practice remains in place.'

When asked what he regarded as his greatest achievement, Peter stated: '54 years of mateship in propagation with my wife Lois and today leading a staff of 77 dedicated craftsmen, who together as of December 2005, have contributed an aggregated 674 years of service to plant propagation. In addition, Sunraysia Nurseries takes pride in being a stepping-stone in the horticultural

careers of many young people who have moved on to further their careers.

His ambition is to live for the day when the Australian Inland Botanic Gardens is fully funded and able to support a complete team of professional employees, who will enable it to make its mark in the world of botany. 'This will be a just reward for all those people within the Sunraysia community who have given, and will continue to give, tirelessly to the success of this 'People Power Project'. It is an awesome privilege to work with the 'movers and shakers' who have created these gardens.'

Perhaps the last word on Peter Smith's contribution to the citrus industry should remain with Mr Neil Eagle.

'With regard to the Citrus Industry, Peter has made a major contribution by his strict adherence to the principle of sourcing his plant material, seed and budwood from sources of proven health integrity status. Peter's integrity has provided a level of confidence to growers, which has enabled our industry to achieve its current high level of health status and plantings of varieties true to type. This has given our citrus industry the best potential to penetrate and expand markets, both locally and overseas.'

'Peter also pioneered some new technology in the propagation of grafted vines; giving the industry access to the superior production potential of the vines that he was selling.'

'I consider Peter to be the ultimate 'green fingers', and I have never seen anybody so suited to the profession he has chosen. Our industry, and horticulture in general, owes a debt of gratitude to Peter for his leadership, innovation and sheer enthusiasm for his many ventures.'

'Peter richly deserves the appreciation of all Australians.'

Few would argue with Neil's objective assessment. Peter Smith remains an outstanding community contributor.

**E. Warhurst Compiler**

# OH&S For Murray Valley Growers

**MVCB Project Update** Since September 2004, the MVCB has been involved in developing an Occupational Health and Safety (OH&S) resource kit for growers, with the overall aim of improving the performance of OH&S in not only the Citrus Industry but also in collaboration with the Dried Fruit, Wine and Table Grape Associations throughout the Murray Valley region.



The overall objectives of all parties concerned, was to customise a suitable resource kit for the four industry bodies, then support the uptake and implementation of the kit through workshops, training and consultancy.

The Manager of the project is Mr Andrew Sullivan of the Victorian Farm Safety Centre (VFSC) University of Ballarat, along with local OH&S Consultant Don Harkins, representatives of the four industry bodies and the relevant government bodies of Victoria and NSW, the Australian Workers Union and growers, have all contributed to compiling the kit

A more detailed report on the project will be released when it is completed.

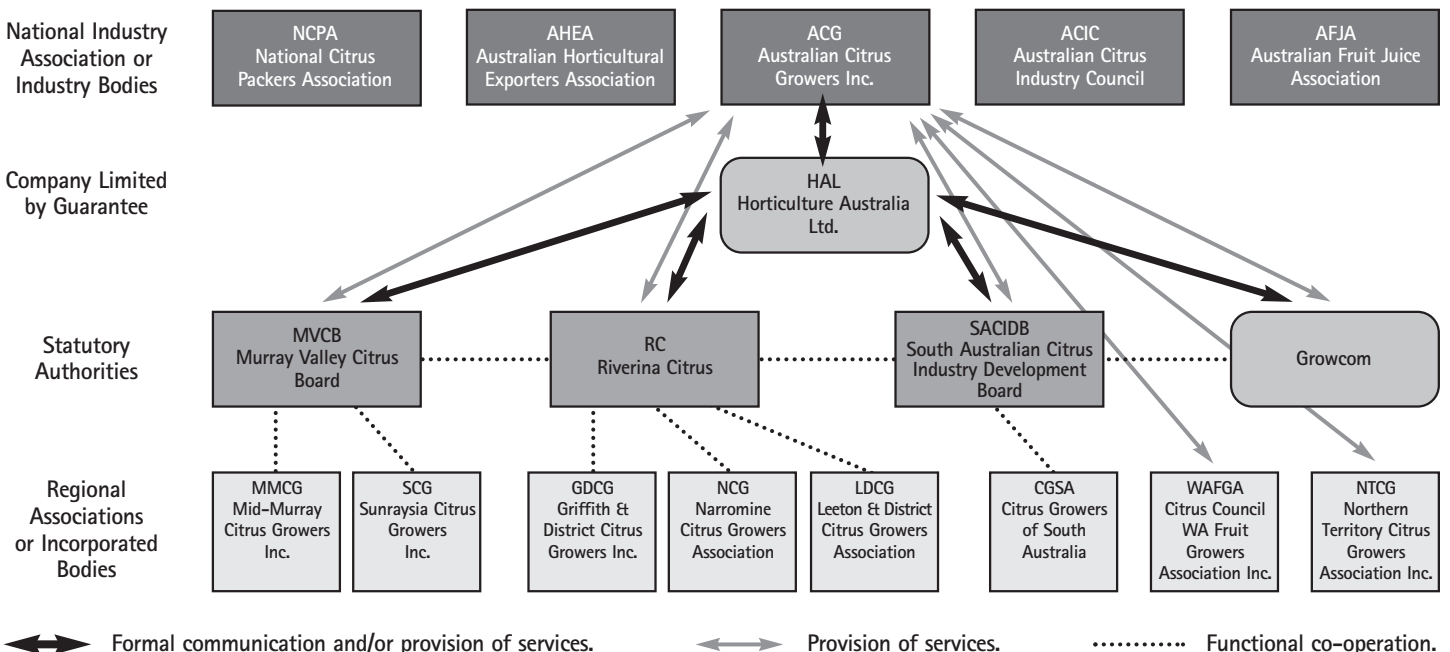
At this stage the timeline for the kit is:

Action	Deadline
1 Editing and proof reading	Aug 4
2 Meeting with printer	Aug 7
3 To VFSC for sign off by industry	Aug 14
4 Final sign off by industry Boards	Aug 25
5 Any changes incorporated by the editorial team	Aug 31
6 To legal departments of NSW and Vic Workcover	Sep 1
7 To printer for layout and design	Sep 18
8 Final proof reading by editorial team	Sep 30
9 To print	Oct 18
10 Finished product	Nov 6
11 Launch	Nov/Dec

If all goes to plan, there will be an industry launch by December 2006 / January 2007, where all levy paying members of the industry will be provided with the kit. Soon after, subsidised training sessions will be made available to assist members with the implementation of OH&S on their properties.

**Tony Filippi**  
Industry Development Officer, MVCB

## Citrus Industry Affiliations - An Outline





# New Citrus Varieties For Australia - CITTgroup Activity

A CITTgroup meeting held at the CSIRO Plant Industry, Merbein in early July attracted an excellent gathering of industry stakeholders to find out about the status of new citrus varieties in Australia. A wide cross section of industry attended, some of whom traveled from as far as Cobram.



Attendees at the July CITTgroup meeting.

This CITTgroup meeting has become an annual opportunity for researchers to report on their activities and present up to date information to citrus industry stakeholders interested in new varieties and rootstocks.

A main focus of the meeting was on the recently announced Merbeingold mandarin varieties. Dr Steve Sykes, co-ordinator of the National Citrus Scion Breeding Program, presented information about these varieties, for which some of the key features are:

## Merbeingold 23-36

- Seedless in open-pollinated conditions
  - Mid-season maturity June-July
  - Easy-peel fruits that can be snapped from the tree
- Juicy, sweet and soft textured segments

## Merbeingold 23-50

- Seedless when grown in isolation or not challenged with viable pollen
- Mid-late-season maturity July-August
- Easy-peel fruits with a reddish, robust rind and which can be snapped from the tree

Seedless, easy peel mandarins are sought after in the marketplace and premium prices generally reflect this.

In addition to the descriptions given, interest centered on the commercialisation strategy to be used for their release, which will utilise two forms of Intellectual Property (IP) protection, namely Plant Breeders Rights (PBR) and Trade Mark (™), and how this will affect the way that industry stakeholders handle the varieties.

As Steve described, this commercialisation strategy was developed by the reference committee, which comprises industry, HAL, QDPI and CSIRO membership to oversee the breeding program, with the aim of being able to create a differentiated product for the consumer in the retail market. The point of differentiation will capitalise on key characteristics allowing the consumer to recognise the fruit in the market place and, with other similar varieties, lead to a clear market presence throughout the season. It is envisaged that this will be achieved by branding the fruits in the retail market through a recognisable trademark.

Another key objective of the commercialisation strategy is to give a return to the investors in the program and help provide investment in future research.

Key elements of the release and commercialisation strategy are:

- A commercialiser will be appointed to manage the program
- Buds will only be available from Auscitrus
- Auscitrus will distribute buds only to licensed nurseries to produce trees, and at a later stage to licensed top-workers. Distribution of buds will only occur following the advice of the appointed commercialiser
- Only growers prepared to agree and sign a contract to the terms of use will be able to access the varieties.
- Growers will only be able to market through a licensed receiver.

It is envisaged that through Trade Mark branding, the Merbeingold 23-36 and 23-50 varieties will be a part of a series of other similarly seedless or low seeded mandarins that will mature throughout the growing season, but be marketed under one brand. Another selection that needs more trial work but could be released as a Merbeingold variety, is one that matures late, around August-September, and produces seedless fruits in open-pollinated conditions.

At the time of the presentation, it was anticipated that an appointment of a commercialiser would occur before the end of August.

Due to the relatively new exposure of IP-protected varieties in the citrus industry, Kathryn Adams of Australian Centre of Intellectual Property of Agriculture (ACIPA) presented a detailed explanation of IP issues and contractual arrangements and how they may affect growers.

Kathryn explained how a PBR on a variety lasts for 25 years and once a right is granted it applies to all propagating material, as well as in some circumstances to harvested materials. In addition, a PBR can sometimes be exercised on products derived from harvested material. This can all depend on the structure agreed to by the commercialiser and plant breeder.

More detailed information on IP protection and PBR can be accessed from the following websites: [www.acipa.edu.au](http://www.acipa.edu.au) or [www.ipaustralia.gov.au](http://www.ipaustralia.gov.au)

A presentation by Graeme Sanderson from the NSW, DPI, ended the meeting. Graeme gave a brief report about a study tour in late 2005, where both he and Pat Barkley (Technical Advisor to Australian Citrus Growers Inc.) travelled to Italy, California and



Spain to view new varieties with potential for Australia. A key point about this tour was that they were able to gain access to places and information that would not have been possible previously due to Pat's credentials. Graeme also discussed the status of varieties currently in quarantine, those that have been released recently from quarantine and will be planted at Dareton this season, and results of trials planted in 2005 with varieties such as Tacle and Alcantara tangors from Italy. It was very interesting to note that a number of new varieties held in, or recently released from quarantine, have IP protection based on PBRs or plant patents.

To round off the meeting, fruits were available for inspection and tasting so that those present could decide for themselves about the qualities of these new varieties.

**If you require any further assistance regarding the above topics please contact the MVCB on 03 5051 0500**



# Notes

## from Neil Eagle

### A Report from Mid-Murray

The commencement of this year's navel season was blighted by severe frost damage in June, particularly in the Riverland and Sunraysia; with conditions considered similar to those of 1982. Fortunately, the Riverina seems to have been cushioned from the extreme low temperatures by a rain event that missed the Murray Regions.

In our Mid-Murray area, the low temperatures and number of frost events have been much less severe than in Sunraysia and the Riverland. Our growers have utilized their overhead sprays, with changed mini-jet spray heads, as totally effective frost control.

The actions of the Agricultural Departments and Citrus Boards in Sunraysia and the Riverland, to conduct educational programs to identify areas of damaged fruit, is to be greatly applauded. Growers and packers can identify frost-damaged fruit, minimizing the risk of such fruit entering the market chain and thus avoid destroying consumer confidence.

Into the future, I believe that down-river areas heavily reliant on drip and under-tree spray irrigation, should give some consideration to the installation of overhead spray systems, which would need only 1/6th of the capacity output of a normal overhead irrigation spray system. This of course would need to be assessed on a cost outlay against risk basis; and may only be applicable in the most frost prone areas.

As for marketing, we have again witnessed the undermining of the value of our Class 1 fruit by \$6 to \$8 per carton, through the dumping of Class 2 and 3 fruit into the market for prices as low as \$4 per carton (ie \$4 below the landed cost). Such irresponsible marketing activity is purely driven by private packer profit for throughput, not market demand.

*That reduction in potential return for their Class 1 Fruit is where the real losses to growers occur.*

It is pleasing to see that grower discussions are beginning in all areas, about the need to develop marketing plans, which could incorporate the three Southern Regions and Queensland. I firmly believe that such a plan, if acted upon, would deliver greatly improved returns to growers, without undermining the profitability of the packing sector.

This is surely the most important issue that our growing and packing sectors should be discussing. If we continue down the current path, we will see many growers fail, undermining our production base and thus, inevitably, the long term supply base of our packers.

**Neil J Eagle**

Chairman, Mid Murray Citrus Growers Inc.

# Harvest Trail

## The National Harvest Labour Information Service



For many vegetable and fruit growers, harvest can be one of the most difficult tasks. The National Harvest Labour Information Service (NHLIS), a federally funded service set up to distribute information and help coordinate harvest labour requirements for the Harvest Trail of Australia, is urging growers, especially those finding it difficult to source harvest workers, to lodge jobs on the Harvest Trail website.



This free of charge service can mobilise workers from areas which have finished harvest, to regions where they are desperate to complete harvest; thereby alleviating the harvest labour problems of horticulturalists trying to pick their crops. This service deals with all types of workers including, backpackers, itinerant workers, 'grey nomads' and eligible Australian job seekers.

The NHLIS uses three key links to support the Harvest Trail;

**The National Telephone Service** which has a freecall number 1800 062 332. This service runs from 8am to 8pm (est) weekdays throughout the year. Call centre operators take calls relating to harvest labour from workers and growers then connects callers to the appropriate organisation or person.

**The Harvest Trail Website**, [www.jobsearch.gov.au/harvesttrail](http://www.jobsearch.gov.au/harvesttrail) is part of the Commonwealth Government's job search website and is a designated area dealing specifically with harvest labour for Australia. It has been significantly expanded and improved, providing comprehensive information about harvest opportunities in all states of Australia.

**The National Harvest Guide** provides comprehensive information about harvest work opportunities and locations, working conditions, transport options and accommodation arrangements. This harvest guide is given out free of charge, and is distributed nationally to itinerant workers, eligible job seekers, backpackers and the 'grey nomads'. It is also available electronically on the Harvest Trail website.

For growers who require assistance to source harvest labour it is essential that they register their requirements on the harvest trail website. There are a number of ways that harvest positions can be added to the harvest trail website and these include:

- Contact your local Harvest Office or Job Agency which will lodge the positions onto the Harvest Trail Website and manage the recruitment process on your behalf. While Harvest Labour Offices can refer any type of worker including backpackers to the work, growers should be aware that many job agencies are only paid to put Australian jobseekers into work and as such may not refer international backpackers.
- Growers and contractors who are computer literate and would like to handle their own enquiries from jobseekers can lodge their own vacancies direct onto the Harvest Trail Website. Just go to the website at [www.jobsearch.gov.au/harvesttrail](http://www.jobsearch.gov.au/harvesttrail) click on 'Employers', then 'advertise a job', then follow the prompts. If you experience difficulty then call the NHLIS on 1800 062 332 for further directions.
- Alternatively, the NHLIS can arrange to lodge the vacancy(s) on the Harvest Trail Website on your behalf, again just call the Freecall number, 1800 062 332 for assistance.

For the NHLIS to be effective in sending workers to a specific area, it is essential that we are made aware of the demand for harvest labour in that area.

The changes made to the Working Holiday Visa late last year, where those backpackers who undertake 3 months seasonal work in regional Australia are able to extend their visa by a further 12 months, has resulted in a large increase in workers willing to work on the Harvest Trail. This change has resulted in the NHLIS having more workers looking for work than jobs registered on the Harvest Trail. As such, the NHLIS urges all growers to lodge their positions on the Harvest Trail and to take advantage of this free service to source workers.

Recently, there were further changes announced to the Working Holiday Visa, whereby backpackers from the 1 July, 2006, are now able to work with one employer for up to 6 months. Since the original changes back in November, feedback from growers and backpackers has been very positive, with many backpackers now keen to stay with a grower for a longer period, in a bid to extend their visa.

The NHLIS refers workers to many areas throughout Australia on the Harvest Trail, however we find the lack of affordable accommodation and transport to the farms are the key barriers to sending workers to a specific area. The NHLIS urges growers to consider what options they may have to help overcome these circumstances. Growers are welcome to contact the NHLIS for advice.

The NHLIS urges all growers and contractors looking to employ workers, to make use of this national service and register their vacancies on the Harvest Trail.



# Rural Employers' Information

(For Murray Valley Citrus Board)

WorkChoices, the new federal workplace relations system, commenced on 27 March 2006 and gives Australia's growers more choice and flexibility in the way they run their business.

Growers covered by WorkChoices now have simpler arrangements for negotiating and lodging workplace agreements. These agreements can replace awards and provide flexibility in determining employment conditions at the workplace level.

WorkChoices established a safety net of minimum wages and conditions of employment, known as the Australian Fair Pay and Conditions Standard (the Standard), which includes:

- the federal minimum wage and classification-based wages;
- maximum ordinary hours of 38 hours per week (plus reasonable additional hours);
- four weeks of paid annual leave for full-time employees, with an additional week for shift workers;
- ten days of paid personal/carer's leave for full-time employees, two days of paid compassionate leave per occasion, and an additional two days of unpaid carer's leave per occasion for all employees (including casuals); and
- 52 weeks of unpaid parental leave (which may be taken as maternity, paternity or adoption leave).

Workplace agreements or employment contracts made after the commencement of WorkChoices cannot provide conditions that fall below entitlements provided for under the Standard. The Standard will apply wherever it provides an employee with equivalent or more favourable conditions than an agreement or contract.

The Standard does not apply to Australian Workplace Agreements or certified agreements made before 27 March 2006.

**For free advice and assistance on agreement making contact the Office of the Employment Advocate on 1300 366 632.**

WorkChoices has introduced new time and wage record-keeping requirements for employers. To allow employers enough time to adjust their existing systems, an employer cannot be penalised on time and wage records requirements until after 26 September 2006. For more information, contact the WorkChoices Infoline on 1300 363 264 or visit the Office of Workplace Services website at [www.ows.gov.au](http://www.ows.gov.au).

All growers in Victoria, the ACT and the Northern Territory are already covered by the federal workplace relations system. To enjoy the benefits of WorkChoices, growers in other states will need to incorporate their business to become a constitutional corporation.

Currently, about 90 per cent of Australian farming businesses are not incorporated. Sole traders and partnerships are also not incorporated entities. From 1 July 2006, the cost of incorporating a business has been reduced from \$800 to \$400. Becoming incorporated also has tax and other implications.

For further information on WorkChoices, visit the WorkChoices website ([www.workchoices.gov.au](http://www.workchoices.gov.au)) or contact the WorkChoices Infoline on 1300 363 264.

The Workplace Advisory Service (WAS) is also available to provide free information and education on WorkChoices. Contact WAS on 1300 650 838 or via email to [wasa@dewr.gov.au](mailto:wasa@dewr.gov.au) to find out more.

## Advertise your service or product in the next issue of Citrep.

For further information about advertising in Citrep please contact Kerry  
at the MVCB office on 03 5051 0500.

# Pulse and Autonomic Irrigation in Israel and USA

**Pulse irrigation is a fairly recent irrigation management technique that attempts to constantly maintain soil moisture as close as possible to field capacity (maximum soil water holding capacity after drainage). The technique is commonly used by fruit growers using drip irrigation, or an open hydroponics system.**

There has been much debate over whether this practice can improve tree health and productivity. In a recent study tour by Steven Falivene (NSW DPI) to Israel and the USA, sponsored by Australian National Committee on Irrigation and Drainage and the Murray Valley Citrus Board, some preliminary evidence has been found that supports the claimed principles and benefits of pulse irrigation.

Numerous theories are discussed on the benefits of using pulse irrigation in open hydroponics. In a recent desktop study conducted by Steven Falivene and sponsored by Land and Water Australia there was some difficulty in sourcing literature that supported the theories and principles of pulse irrigation (the report is available at [www.npsi.gov.au](http://www.npsi.gov.au)). Information sourced on this recent study tour to Israel and Florida seems to indicate that there could be some benefit in using pulse irrigation.

A study in Florida was assessing the water use of citrus on sandy soils at various soil

moisture levels. It was discovered that as soon as soil moisture began to decline, the tree immediately began to reduce its water use. A reduction of tree water use is a physiological response to water stress that causes the pores (stomata) in the leaves to close to reduce water escaping from the leaves (transpiration). However when the stomata close, the ability of carbon dioxide to enter the leaf to facilitate photosynthesis and tree growth is reduced. Traditionally it was thought that the point where physiological tree water stress occurs is at about 50% of the total available water (TAW). This study suggests that in sandy soils this could be as low as 10% of TAW. The practical implication of this study is a general recommendation for growers in Florida to irrigate more often but with less volume. Most growers visited during the study tour were trying to adopt a daily sprinkler irrigation regime. It must be emphasised that this study only investigated water use in sandy soils. The tree's response to the onset of physiological tree water stress could be different on other soil types. One would guess that soils with higher clay content (loams and clays) would probably have a higher physiological tree water stress threshold than sandy soils.

In Israel they were also field-testing pulse irrigation by using autonomic irrigation scheduling technology. The difference between automatic and autonomic irrigation is that

automatic irrigation is where you program a controller to commence and cease irrigation at set time intervals (ie 4 hour shift every third day starting at 3pm). Autonomic irrigation relies on a sensor to detect tree water stress, which then activates the irrigation system. In other words your trees will turn the irrigation system on and off, as they become thirsty.

A number of manufacturers and researchers are testing various electronic instruments to 'read the mind' of a citrus tree to detect when it wants water. One method uses a tensiometer to detect tree water stress. The tensiometers are placed 15 centimetres deep and about 15 centimetres away from the dripper. It is theorised that the water soil moisture tension in a compact root zone is a good indicator of water stress in the tree canopy.

Information of manufacturers of this type of tensiometer is available from the following web sites: [www.mottestens.com](http://www.mottestens.com), [www.common-sensor.com](http://www.common-sensor.com)

Another study using leaf thickness to measure tree canopy water stress will be included in the next issue of Citrep.

Steven has made a DVD movie and a detailed report of his study tour.

Contact Steven Falivene on 03 5019 8405 or 0427 208 611

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