

Citrep

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Newsletter of the Murray Valley Citrus Board

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Jan Denham

Chairman's Report

My first report last year commenced with the following:

"Sadly, the start of 2010 has not been a good one with the declaration of a fruit fly outbreak, which then saw the outbreak time extended with the detection of a single male fly."

Unfortunately, this year's opening report is no better. The fruit fly outbreaks that have been declared to date in the Pest Free Area (PFA), currently standing at 14 at the time of writing this report, make the 2010 incident seem insignificant.

This year's weather has not been to our advantage with regard to Queensland Fruit Fly (QFF) - even though our citrus trees love these conditions. The very wet/humid weather, nice moist soils (not too dry and hot) are conditions that QFF really love.

The 2010 QFF outbreak did not have any impact on our seasonal window, area freedom access to Japan and hopefully this will remain for the upcoming export season. However, exports to the US will require cold disinfestation.

These conditions have also introduced another pest - the Spur Throated Locust that is creating havoc on citrus trees. This locust is normally only found in the tropical regions of Northern Australia as it can only thrive in warm, moist, humid conditions. This is an indicator of how tropical our summer has been.

Many questions are being asked by both the MVCB and growers as to HOW and WHY this has occurred, and what we could do better to prevent an incursion such as this? Some suggestions have been for the permanent installation of roadblocks; more random roadblocks related to weather conditions and more use of DNA technology to indicate where the QFF comes from.

The Vic DPI has set up an independent review of the PFA to ascertain how we can get the best outcomes from the PFA. This review will address all the issues related to the PFA to ensure that it can be of greater benefit in the future.

The MVCB is once again commencing its budget setting process for the 2011/12 financial year. Last year saw some changes in the process which allowed for more input from growers prior to the voting stage on the budget.

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Activities of the MVCB March 2011 Quarter

CEO/Board

- Attendance at Nangiloc/Colignan Primary School Award celebration evening
- MDBA Technical Briefings, Canberra Meeting with Tony Bourke re MDBA draft Plan
- Productivity Commission meeting into R&D
- Horticulture Industry Network assessment meeting
- Post Harvest Steering Committee meeting
- Tri State Fruit Committee meeting
- Various media commitments in relation to pest issues and market access
- BA/AQIS/DAFF meeting on FRW and Thailand/Korea
- Finalisation of citrus manual for QFF outbreak protocols
- Attendance at several CITTgroup meetings
- Economic and social impact study of MDBA plan with Rendall McGuckian Consultants
- Attended Senate Enquiry on the MDBA Plan
- Numerous meetings with Vic DPI on QFF outbreaks
- Met Peter Walsh, Minister for Agriculture Vic. to discuss industry issues
- Pest Free Area meetings
- CAL meeting re collaboration between organisations
- Tri State Fruit Fly Committee meeting in Griffith
- Horticulture Industry meeting Melbourne
- National Export Forum meeting

Hugh Flett
CEO, MVCB

Proposed CITTgroups for 2011

Ms Mary Cannard, Industry Development Officer, MVCB has outlined a proposed program for the information of growers.

- **Melbourne Markets Tour**
An overnight stay in Melbourne, followed by an early morning at the Melbourne Markets and breakfast with the Greengrocers Association.
- **Citrus Nutrition Technical Workshop**
- **AQIS Pre-Season Meeting**
Management strategies to improve market access, issues surrounding the export of fruit to overseas destinations and discussion on new work plans for export markets.
- **Area Wide Management for Fruit Fly**
Queensland's method of improving fruit fly control and market access to fruit fly sensitive markets.
- **Citrus Field Day**
This will highlight the citrus research being undertaken at NSW Industry and Investment.
- **New Citrus Varieties Field Walk**
Growers will have a chance to look over the new citrus varieties being trialled at NSW Industry and Investment.
- **Spray Calibration and Application**
Correct calibration of spray equipment can save growers money on costly chemicals, and can mean more effective control of citrus pests.

IDO Activities

- Participated in Horticultural Industry Network Meeting in December and Corporate Governance Training
- Facilitated orchard visits for the Citrus Pathology Group
- Participated in the Citrus Pathology Group annual meeting
- Attended Imperial Mandarin Dryness Forum
- Produced Weekly Citrus Board News
- Produced monthly article for Sunraysia Daily farming page
- Attended Nangiloc/Colignan School Awards night
- Met with citrus IDOs to co-ordinate national activities in crop regulation
- Facilitated Best Practice/Steering Committee meeting
- Produced Milestone Report 3 for IDO project
- Completed initial density and size measurements for crop forecast
- Participated in Sunraysia IDO Network meetings
- Attended Seedless Mandarin Forum

Mary Cannard

Industry Development Officer,
MVCB



Hugh Flett

Chief Executive's Report

Latest Progress on Market Access

In the latter part of season 2009–10, orange exports to Thailand were voluntarily suspended by industry due to issues with detections of Fuller's Rose Weevil (FRW) eggs under the calyx by Thai DOA authorities on arrival.

Last season saw a rejection rate of approximately 23%. On the basis of the continuing nature of the interceptions, Thailand has reviewed the citrus protocol and advised that a pre-export mandatory fumigation treatment with ethyl bromide would be required in an advice sent to Biosecurity Australia (BA) in early 2011.

MVCB in conjunction with the South Australian Citrus Industry Development Board, Riverina Citrus, Citrus Australia Limited, BA, AQIS, DAFF and AHEA held numerous meetings to discuss the implications of such a protocol on Australian orange exports to not only Thailand, but also possible implications for Korea and China.

The outcome of these meetings was that BA has prepared a response to the Thai authorities strongly advocating an elevated approach to orchard management.

This approach includes changed sampling and improved inspection technique to assure AQIS that unacceptable infestation levels will be detected. New field controls would also provide a higher level of confidence that FRW populations are being adequately managed. Crop monitors will make an assessment regarding the level of infestation of FRW which will enable growers and packers to determine what action needs to be taken and if it is worthwhile having a particular orchard inspected for the following season. An updated training package for crop monitors will need to be undertaken prior to the next season with the exception of Western Australia and Queensland. There will also be increased packing shed inspections for blocks which have low levels of FRW.

The BA response to the Thai authorities also includes recommendations for post harvest

treatment for pests of concern which do not include methyl bromide. These pests can include Fuller's Rose Weevil, mealybug species, light brown apple moth, etc. Effective postharvest disinfestation of produce is essential to satisfy the zero tolerance of live insects required by overseas quarantine authorities.

Fumigation with methyl bromide is the current quarantine treatment, but causes browning and other damage to fruit; hence an alternative treatment is required. Methyl bromide depletes the ozone layer and because it is to be phased out by 2015 in Australia under the Montreal Protocol, its cost rises each year as production and imports are progressively curtailed.

Research on alternatives to methyl bromide has been carried out at the Department of Agriculture and Food, Western Australia, South Perth, using international trial protocols. Several hundred experiments were conducted on all life stages of the prohibited pests. The key outcomes are:

- A new fumigant (combining ethyl formate with carbon dioxide) was tested in the laboratory and in commercial conditions and found to be very effective in destroying pests and preserving product quality.
- New and effective fumigation quarantine treatments have been developed against Fullers Rose Weevil, light brown apple moth, longtail mealybug, and citrus mealybug at temperatures ranging from 10 to 20°C and exposure periods from 2–4 hours.
- The research data satisfies international standards of quarantine treatment required for market access of citrus from Australia to all countries imposing restrictions against these specified pests.

- Fumigation combining ethyl formate + carbon dioxide at temperatures and exposure periods that fit within the cool chain process preserves the quality of fresh harvested citrus.
- Using alternative treatments to methyl bromide is a sustainable way of managing the citrus industry into the future.
- These new fumigation methods have high applicability for many external pests found in other exported fruit crops.

Australian exporters can satisfy stringent quarantine requirements, and exporters can choose a temperature treatment that best suits their crop and operational program. The new methods also provide more flexible in-transit treatments, enabling further gains to be made in delivery time and quality of product.

The results of this research will be provided to Thailand in the BA response and other major trading partners including China, Japan, USA, Taiwan, India, Korea, Indonesia, Vietnam and New Zealand with the data package requirements to approve exports of Australian citrus.

The MVCB will continue to provide updates as they come to hand.

Sources: Citrus Australia Limited, Biosecurity Australia, DAFF, DAFWA, Horticulture Australia Limited

Hugh Flett
CEO, MVCB



Board Member Profile

Peter Morrish was recently appointed as a member of the MVCB. Peter was employed as an IDO with the MVCB from 1998 to 2005. He moved to Griffith as the Executive Officer, Riverina Citrus, returning to Mildura last year to take up a position with WHK.

More recently, he became the Agribusiness Manager of SC Farms. (SC Farms manages over 2,000 acres of horticulture from Mildura to Swan Hill. They are a section of the Southern Cross Business Advisors who are based in Mildura. Crops include wine grapes, dried grapes, citrus and almonds.) Peter reflects on both his previous and future involvement with agriculture in the personal profile that follows.

"Agriculture has been my passion since I was a boy growing up on a wheat and sheep property in the Millewa. (I include horticulture as agriculture.) To me, the life and lifestyle in agriculture has the most appeal, no matter how much it is put down. I also believe it is important to return the support that is given to you for the benefit of future farming generations."

Peter attended Werrimull Consolidated School for his primary and secondary schooling before completing his VCE at Red Cliffs High School. He later achieved an agricultural degree at Roseworthy Agricultural College, establishing long lasting, valuable networks.

Following his studies he returned to the family farm. Bar work, shearing, tractor and grape harvester driving and many other pursuits provided an income stream while assisting on the farm. It enabled him to experience first hand the varying levels of operational knowledge of various owners and managers.

Peter joined the Murray Valley Citrus Board as a trainee field officer in 1998. From then to 2001, when the family farm was sold, he returned home most weekends to assist in the farming operations.

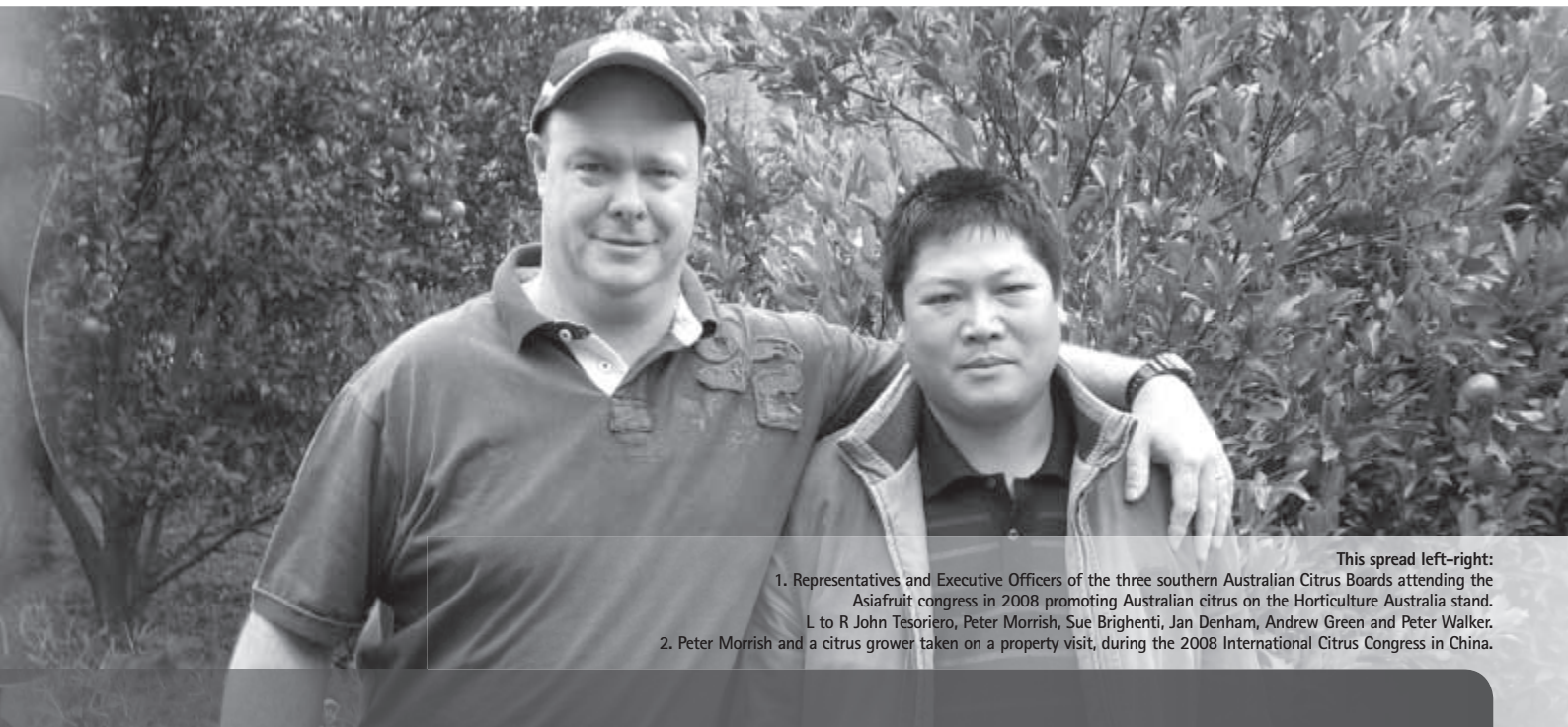
During this period he met and married Kerry, a Red Cliffs girl. They have two boys, Jack 9 and Cody 7 who are enjoying attending school and playing sport.

"My sporting pursuits have slowed with family life, and also with a change of vocation. Achievements included winning back-to-back A grade premierships with Nursery Ridge Cricket Club in the early 2000s in the Red Cliffs cricket competition. (I was President of the cricket club during that period.) Another was achieving

runner-up in the C-grade division at Red Cliffs Golf Club in my first championship competition. I hope to give golf a more dedicated attempt in the future.

I almost gave away the field officer position at the MVCB within the first two weeks as I had little relevant knowledge of the industry or horticultural operations, apart from some grape harvesting work and minor experience at college. However, with the support of local citrus growers and packers, I was able to gain an understanding of the industry. I spent a day in the field with each of Terry Blenheim and staff at Sunnyclyffs Packers, Jan Denham and Robert Ridgwell on their organic property and with the Mansell family on their property and packing shed. This practical experience awakened my interest and I stayed with the Murray Valley Citrus Board for seven years in varying field officer roles.

One of the highlights of my time with the MVCB was to prepare a poster presentation for the International Citrus Conference in Morocco on the new citrus plantings database. It was subsequently taken up



This spread left-right:
 1. Representatives and Executive Officers of the three southern Australian Citrus Boards attending the Asiafruit congress in 2008 promoting Australian citrus on the Horticulture Australia stand. L to R John Tesoriero, Peter Morrish, Sue Brighenti, Jan Denham, Andrew Green and Peter Walker.
 2. Peter Morrish and a citrus grower taken on a property visit, during the 2008 International Citrus Congress in China.

e – Mr Peter Morrish

nationally. This, along with assisting to streamline a number of hands-on operations within the office, especially the crop forecasting data management system, was also very satisfying.

After 7 years as a field officer I felt it was time for a new challenge. The decision to leave the MVCB, my second home after the farm, and move with a young family to Griffith, NSW to take up the Executive Officer role was extremely difficult, but a challenge I looked forward to and one I'm glad we as a family undertook.

The citrus growers of the Riverina were very welcoming. The move highlighted the differences between regions and that one way definitely doesn't suit all when it comes to growing citrus.

It also highlighted the tough conditions created by the drought and market access issues that are so important to the industry. The Riverina is the front line fighting against the southern and western movement of the Queensland Fruit Fly. The importance of a strong processing market is also critical to pricing throughout the industry. It is easy to promote the perfect orange, but how does the citrus industry move the fruit that is not currently suitable for the fresh marketplace? Every tree has some of this fruit on it, no matter how successful the orchard or grower is.

The move back to Mildura was motivated by both family and personal reasons in that I was again looking for a further challenge.

The agribusiness role with WHK enabled me to work with a number of different horticultural commodity groups as well as returning to my broadacre background. It also retained some linkages to the citrus industry.

The knowledge I gained both during and after my time with the MVCB was the driver for me to apply for a position on the Board as I felt I was qualified to give something back to the industry.

In my role of overseeing vineyards and orchards and working with horticulturalists, I now have a greater understanding of the impacts to management on all aspects including finance, climate, marketplace and consumer demands. I am able to identify the drivers within the different commodity groups and can bring this to the citrus industry in a way that can be utilised and understood by the various levels of the industry.

I believe the Australian Citrus Industry, like a number of Australian agricultural commodity groups, is at the bottom of the cycle and has to be ready to take advantage of improvements as that cycle moves up. The climatic conditions have

not been favourable over the past 5 years and have limited opportunities for growth in the industry. (Growth in terms of fruit quality, not necessarily total production.)

The marketing window of the citrus industry is shrinking. Our export competitors are lifting their quality, so the industry needs to get smarter, to work together and not consider our neighbours as our competition. We need overall quality to ensure there is sufficient volume to meet export requirements.

The industry can change. The planting of Navelinas to a point where they are in excess proves that the technology transfer programs within the industry work extremely well. Pruning was something only Queenslanders did when I started in citrus in 1998, now there is hardly a tree that isn't regularly pruned.

The limitations are currently in marketing and market access. When I started in the industry, the US market was the number one destination for Australian oranges and all growers were advised to increase production for this market. The growers have done their bit, but the market has not grown and has now been overrun by our competitors. While this was happening additional markets needed to be found and

Knowing Your Foe – New Insights into the Biology of the Citrus Gall Wasp

A new citrus pest has emerged in the Sunraysia district. As a result, the MVCB has provided funding and personnel for a project to investigate the life cycle of the Citrus Gall Wasp (CGW).



The results from this study will assist citrus growers to manage the pest in a sustainable way with sprays being better timed to maximise the effectiveness of the chemicals applied.

The Project Leader, Dr Jianhua Mo from NSW Industry and Investment has provided a progress article on this important study.

Citrus Gall Wasps (*Bruchophagus fellis*) lay their eggs between the bark and wood of young spring-flush shoots. Upon hatching, the larvae burrow into the bark, where they feed and develop. The feeding areas swell and eventually form the characteristic galls. Originally from the north, CGW has recently become a problem in some citrus orchards in Sunraysia. As part of an effort to develop management strategies against the pest, a 3-year research project, "Managing citrus gall wasp in southern citrus regions" (CT10021), was started in August 2010, with the aim of providing a sound biological basis for the timing of management options and to identify effective and IPM-compatible options against the wasp.

Chemical control of citrus gall wasp targets either the adults or newly hatched larvae. Foliar sprays of oils are known to disrupt the normal behaviour of foliage-dwelling insects and are being investigated for their effects in repelling egg-laying by citrus gall wasp adults. For best effects, oils sprays

should be applied when the number of adults in the foliage is at its peak. This is determined by the timing of peak adult emergence and the lifespan of the adults. Another commonly used approach to control insects living within plant tissues is the use of systemic insecticides. These insecticides target feeding larvae and work best before the tissues around the larval feeding sites become woody. Hence, it is important to know when larvae hatch from their eggs.

During the first year of the project, we collected data on the emergence, sex ratio, longevity, egg-laying, and the duration of egg development. We also conducted a field trial comparing the efficacy of a spray oil and two new systemic insecticides relative to the registered methidathion and un-sprayed controls. Weekly data from field traps showed that adult emergence started between 22-29 October and peaked between 19-26 November in 2010. Data from cut-off galls kept at 20°C showed that most of the wasp emergence (95%) occurred in the 11-day window between 13-24 November. Around three quarters of the wasps that emerged were females. On average the adult wasps lived 6-7 days if water was provided. Adults started to lay eggs immediately after emergence and egg-laying continued for up to 7 days after emergence, with the largest number of eggs produced between days 2 and 4. The duration of egg development varied from

10 to 24 days with an average of 16 and half days. Based on these results, CGW egg hatching in Dareton in 2010 may have occurred between 11-18 December. Encouragingly, we have found 10 parasitic wasps of CGW (*Megastigmus brevivalvus*) from our field traps and cut-off galls. This is direct evidence that the parasitic wasp has established at the research sites.



The chemical trial is still progressing. Treatments were applied between adult emergence and egg hatching. The trial site will be visited in autumn for gall collection and treatment assessment. Results of the trial will be reported later.

Acknowledgement

The project is funded by HAL using the voluntary contribution from the Murray Valley Citrus Board (MVCB) with matched funds from the Federal Government. In-kind support is provided by Industry & Investment NSW. We wish to thank Mary Cannard and Tony Bothroyd of MVCB, and Troy Witte of Dareton Agricultural Institute, for assisting with data collection. Richard Bertalli is thanked for providing the research sites.

Jianhua Mo

Project team: Andrew Creek, Scott Munro, Mark Stevens

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Neil Eagle

Notes from Neil Eagle

In Terms of the Ludicrous Ongoing Saga of the Basin Plan

The rainfall of recent months, although extreme and causing widespread damage from Echuca, Bendigo and westward to the South Australian border is not rare or without precedent.

Rain and Rivers

The citrus industry has been spared the devastating damage when compared to industries such as the grape, vegetable, dairy and broad-acre cropping enterprises or the inundation of towns, farm houses and machinery plant.

The likelihood of such dumps of rain reoccurring is of course not great. However, with the Hume Dam full, Dartmouth about 58% and Menindee pre-releasing ahead of Queensland inflows, it is likely we will experience a River flood this winter/spring with any reasonable rainfall in that period.

Regarding the Ludicrous Ongoing Saga of the Basin Plan

The MDBA, now chaired by Craig Knowles with CEO Rob Freeman, is pushing ahead as if no community objection has occurred. They are still talking of 'recovering' 3000 to 4000 GL's from productive use, when the whole of the Basin is awash with water. It seems these leaders are incapable of realising that the drought was a natural occurrence, which deprived the environment of water, not extractive use (when zero and/or low allocations were only available). The natural correction of the drought has been occurring with the recent massive falls of rain.

Rivers do not die, Australian rivers experience periods (often extended) of extreme drought followed by significant wet periods and floods. The Rivers are highly adaptable by naturally expanding and contracting in response to natural rain events.

We must make the bureaucrats and politicians accept these facts and bring this Basin Plan nonsense to a halt until:

- 1 The 2007 Water Act is amended to allow equal balance between economic, social and environmental needs.

NB: The 2007 Water Act was quickly amended in 2008, to guarantee critical human needs (ie towns and cities ahead of environmental needs). So amendments in line with those from Senator Barnaby Joyce's Senate Inquiry could easily be achieved, if there is the political will. We must make this happen!

- 2 The recent needs of the environment are identified, not the current ambit claims for massive end of stream flows, really aimed at filling the Lower Lakes and spilling a further 2000 GL's over the barrages into the sea.

The pretence by both Minister Tony Bourke and new MDBA Chair, Craig Knowles, that the current 2007 Water Act can deliver a balanced outcome, is cause for great concern. They are both guilty of purposely endeavouring to deceive the general public or are demonstrating how totally inept they are.

Furthermore, the appointment of two new Committees by Craig Knowles to advise him, consisting of people with limited knowledge or pre-arranged agendas also needs challenging.

For Minister Tony Bourke to be announcing that the Commonwealth is re-entering the water market with a \$40 million tender with the current uncertainty of any real need is beyond belief and should be confronted.

With Regard to the Citrus Industry and Crop Prospects for 2011/12

It seems all of our growing regions have enjoyed very favorable conditions for fruit sets in all varieties.

The challenge will be in the marketing in that:

- 1 Early areas should resist the urge to market immature unpalatable fruit, thus depressing future consumer demand.

- 2 We fully support CAL's promotional campaign for mandarins and oranges.

- 3 In this year's 10-year review of EEP powers, the benefits to our growers of the utilization of these powers are fully recognized, and any charges recommended are of an operational nature and not a push in any way for their erosion.

I commend CAL for the Export Marketing Forum, held in Melbourne on 24 February 2011, covering a wide range of issues with excellent presentations and open discussion forums.

Neil Eagle

Chairman, Mid Murray Citrus Growers Inc.



The Sunraysia F

The Sunraysia Farmers' Market has become something of an institution in Mildura. Until recently, it had operated at the Australian Inland Botanic Gardens at Mourquong. However, on 7 January 2011, the Market relocated to the Ornamental Lakes site in Mildura.

In this context, the gardens are worthy of a brief explanation as Sunraysia is justifiably proud of this successful initiative. They are located on River Road, Mourquong, between Mildura and Wentworth and have an outstanding collection of plants from around the world that are uniquely displayed, geographically - grouped by continent, country or region of origin.

The idea for the inland botanic gardens was conceived by local CSIRO horticultural scientists more than fifty years ago. Its collection of Australian plants is organised by state, and features species from the dry interior of the continent where rainfall averages less than 250 mm a year. The gardens provided an ideal setting for the initial location of the Sunraysia Farmers' Market held on the first and third Saturday of the month from 8am to 12pm.

This successful venture was another example of the growing significance of Farmers' Markets across Australia where consumers not only see and buy the local produce, but also have the opportunity to talk directly to the people who grow it. Currently, there are about 90 in operation across the state of Victoria with approximately 20 in operation on any weekend.

Ms Fiona Forbes, Committee Member, Sunraysia Farmers' Market Inc, makes the following overview comments with regard to the considered development and successful operation of the venture. These observations reflect all that is good about a well organised and strongly motivated group of people, doing all they can to enable consumers to stock up on their fresh food needs in the relaxed atmosphere of an enjoyable country market.

'Our supermarket under the trees is held twice each month. We have operated for nearly five years through drought, water supply crisis, locust plagues and hard financial times. The stallholders represent the best of our region's agriculture and food production. Our primary aim is to provide a welcoming and profitable place for producers to sell their goods directly to their community.

Stallholders are increasing the quantity and variety of their goods and, whilst it is not easily measured, recognition of the Sunraysia Farmers' Market is high. Our produce must be fresh otherwise the stallholder will not be invited to return. The Committee continues to encourage a wide cross section of goods to the Market including locally produced wines, home grown vegetables, plants and other previously unrepresented products. We have had a butcher, baker and the beeswax to be a candlestick maker. It is our desire to continue to source the best of local produce, representative of all our multicultural community and enhance what we already have.



This spread left-right
 1. Jeff & Ann Frankel's country theme stall
 2. Greycres, owned by Fiona & Jayne Bawden
 3. Produce from the Demaria stall

Farmers' Market

Local producers have used the Market as a forum to trial new products and value-add to existing products. Many have enjoyed success on a national level and developed a strong following outside our region. Feedback is immediate with tastings, food demonstrations and passionate discussion on the merits of particular varieties widely gathered. The continued community support ensures our market is one to be envied in Farmers' Market circles.

Our breakfast is a unique part of the Farmers' Market experience. We welcome recipes, product ideas and enthusiasm to achieve this end. We use our breakfast to educate patrons and showcase the seasonal nature of our crops. A sample menu may include asparagus in spring, blood oranges in winter, persimmons in autumn and bountiful, juicy, red vine-ripened tomatoes throughout summer.

Our financial model enables our continued success. The proceeds from the breakfast ensure we remain a financially viable, non-profit organisation. We pay our co-ordinator for the many hours of work each month, and we are grateful for the

work of a band of passionate volunteers, supporting organisations and local businesses.

Our Market community has strongly defended the principle of a market specifically manned by the grower or producer of the product. We are passionate about what we are trying to achieve. The Market continues to grow sustainably, with integrity and can be seen as a positive reflection of our agricultural region in these challenging times!

Ms Sue Pull, Market Co-ordinator, Sunraysia Farmers' Market Inc identified some of the important issues regarding the recent move to Mildura.

'The early indications are that it is a very positive initiative to enable the Market to service the needs of a wider community in a highly visible and easily accessible location. The aim of bringing the Market to the people and growing the venture was realised at the new venue, with an encouraging number in attendance including the Mildura Mayor, the local Member of Parliament and other district identities. Many of the stallholders sold out of produce.

Already, there is widespread interest from growers wanting to become involved, and the location bordering the Murray River emphasises the importance of this natural resource and provides an opportunity for houseboat travellers to source their produce.

However, the real test of the relocation will be in twelve months time when we can compare the numbers with those at our previous location at the Australian Inland Botanic Gardens.'

Overall, people noted the change of venue and responded in a positive manner. Perhaps the following comment made by one local resident summarises the favourable impressions of many in attendance.

'What a fantastic crowd in attendance. Well done. Let's hope that those numbers continue.'

The Sunraysia Farmers' Market is now poised to make more exciting developments in its very visible, river-view location.

E. Warhurst
 Compiler

The Age Harvest Picnic At Werribee Park



Left to Right: 1. Eric Wright 2. Jan Richards

The major article in the Christmas edition of Citrep which focussed on MVCB Promotions, 2010 was well received and has generated more informed discussion with regard to citrus industry promotions.

The main aim of the article was to highlight the experiences of growers who had participated in local or regional MVCB promotions in recent years.

Their positive responses should encourage other growers to become involved where they can in the future. This has generated a follow-up article on one of the better-known promotions that the MVCB has been associated with for many years.

A not-for-profit event aiming to promote Victorian producers to a wider audience, the Age Harvest Picnic is now entering its 23rd year, making it one of the longest running festivals in Victoria. Set on the Great Lawn at Werribee Park, with the impressive historic mansion as a backdrop, it provides a day out for families, friends and food lovers, with music on stage, cooking demonstrations by some acknowledged chefs and activities for children.

The most recent Harvest Picnic was held on Sunday November 28, 2010 where 100 of Victoria's best food and wine producers gathered to showcase, sample and sell their products.

Fresh farm gate produce, citrus products, extra virgin olive oils, jams, relishes, sweet treats, artisan breads and cheeses, wood fired pizzas, craft-brewed ales and ciders,

boutique wines and locally roasted coffees were on offer.

Visitors were invited to bring a picnic blanket and an empty basket to fill with the goods available from exhibitors such as the MVCB. Exhibitors, for example the Melbourne Wholesale Fruit and Vegetable Market, Australian Mushroom Growers Association and Auldstone Cellars have been bringing their products to the Harvest Picnic for years.



Keith Richards

Based on previous experience, the organisers were predicting an attendance of some 10,000 visitors. However, this number was not realised due to the inclement weather that eventuated across the scheduled weekend.

Tony Bothroyd, Field Officer, MVCB stated that in spite of this disappointment, the exercise proved of real value, feedback relative to the citrus products on offer was very positive and those involved were keen to encourage other growers to participate in this and similar MVCB promotions in the future.

An opportunity to do this was provided at the annual Picnic at Hanging Rock promotion held on Sunday, 27 February, 2011. This major public event consistently draws crowds of up to 40,000 people on the day, and provides another credible and well-publicised venue for growers interested in promoting their produce.

E. Warhurst
Compiler

What's The Weather Doing?

Citrus growers should heed the warning that Septoria Spot and Greasy Spot infections on fruit and leaves usually occurs in late summer, autumn or early winter, coinciding with prolonged periods of rainfall.

Long-range forecast models surveyed by the Bureau of Meteorology (BoM) suggest that the current above average rainfall, due to La Niña, is likely to persist into the autumn season.

The Bureau reports that Australia continues to feel the effects of one of the strongest La Niñas on record. There are signs that the event has passed from its peak of about a month ago, but there is a chance that La Niña will persist for the rest of the year.

During La Niña events, tropical cyclones are typically more numerous during November to April, while summer daytime temperatures are often below average, particularly in areas experiencing excess rainfall.

The current La Niña event has contributed to the extremely high rainfall during spring and summer causing widespread flooding in Victoria, Queensland, New South Wales, and Tasmania.

The BoM's seasonal rainfall outlook modelling for February to April 2011 favours drier than average conditions over southern and eastern Australia but the model is only weakly consistent over Victoria and southwest NSW for this time. Warmer than average days are favoured across most of Victoria for the February to April period and the model is moderately consistent for this area.

El Niño Southern Oscillation (ENSO) is the term used to describe the oscillation between the El Niño phase and the La Niña, or opposite, phase. Climate indicators of ENSO, including tropical cloud amount, the Southern Oscillation Index (SOI), trade winds and Pacific Ocean sea surface (see right) and sub-surface temperatures, all remain well above La Niña thresholds. Most have exceeded these thresholds since the middle of 2010. The Indian Ocean Dipole (IOD) index has remained close to neutral recently, which is typical for this time of year and predictions are that it will remain

neutral until April. More detail is available from the BoM's ENSO Wrap-Up, which is found under 'Climate Information' on the BoM's website (ENSO Wrap-Up).

Pam Strange
Program Manager Climate Adjustment Horticulture Branch Department of Primary Industries (DPI)



Chairman's Report

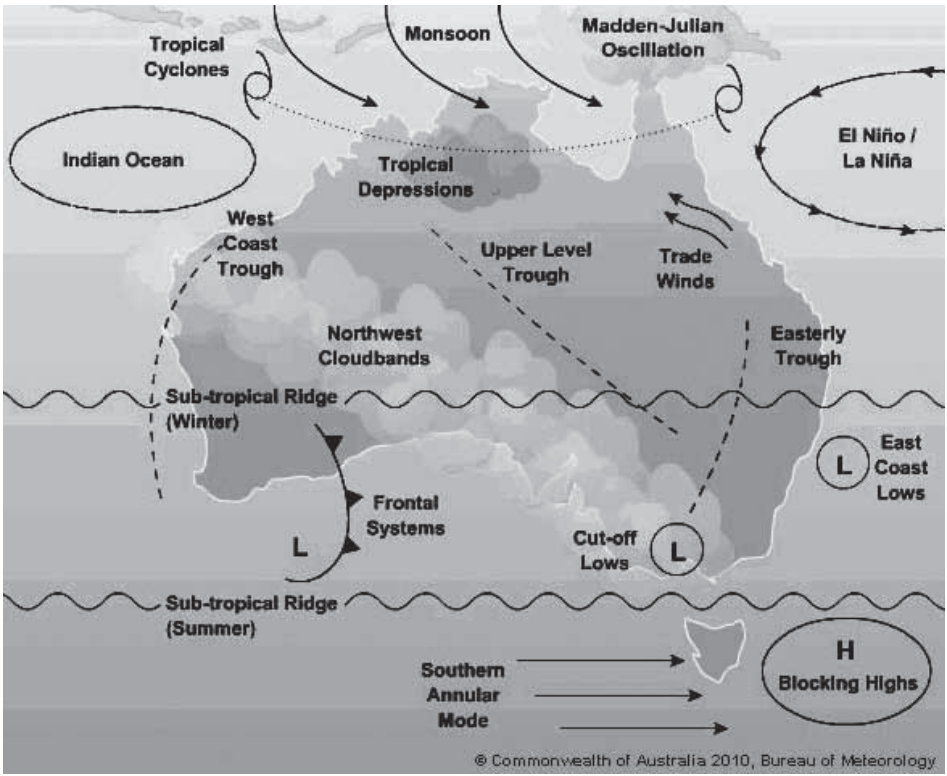
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We moved also to a more inclusive process that was welcomed by growers. In the coming year the Board aims to further improve the consultation process to ensure that we hear what you are saying about your levies. Look out for these notices.

In concluding, the MVCB congratulates Michael Keenan on being awarded an Order of Australia Medal (OAM) in the New Year's Honours list, for his service to the citrus industry.

Michael your award is well deserved, and we look forward to working with you for many more years.

Jan Denham
Chairman, MVCB



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Fruit Movement Under Queensland Fruit Fly Outbreak Conditions

The Department of Primary Industries, in collaboration with representatives from the Murray Valley Citrus Board (MVCB) have developed a Manual titled 'Contingency Plan for Queensland Fruit Fly outbreaks in the Greater Sunraysia Pest Free Area'.

This Manual is designed to outline responsibilities for all parties during the course of a fruit fly outbreak. It is a 'living' document, subject to change and will be available in full on the DPI website.

The information below is extracted from the Manual and applicable to the current outbreak situation.

Fruit fly management within the Pest Free Area (PFA) is conducted in accordance with the Code of Practice (COP) for Management of Queensland Fruit Fly (QFF) which is the national standard for the management of the pest. The COP outlines all facets of QFF management including the triggers for outbreak/further action, specification of fruit fly traps, spacing distance between traps and the frequency of inspection as well as response requirements and procedures.

Market Access Arrangements

Risk Mitigation Measures

The Domestic Quarantine & Market Access Working Group (DQMAWG) is a national committee consisting of senior State and Territory plant health regulators that determines quarantine regulations and develops operational procedures for market access to sensitive markets. In addition to fruit fly area freedom, quarantine risk mitigation measures which may* be accepted by fruit fly sensitive markets for citrus include:

- Fumigation;
- Post harvest insecticide treatment (dip, flood spray, or non-recirculating spray);
- Post harvest cold disinfestation.

*Note: Quarantine risk mitigation measures acceptable for citrus will depend on the destination source for the product. For up-to-date information, check AQIS and State Department websites prior to shipping.

Treatment Arrangements

To mitigate against the risk of spreading outbreaks to unaffected areas, treatment options are available, which involve:

- In field pre-harvest fruit treatment, to target the pest before it has the ability to infest fruit, or;
- Post harvest fruit treatment, to target the pest where the fruit may already be infested, or;
- Secure transport for processing (limited availability).

Certification

In order to verify that risk mitigation measures have been applied in accordance with protocol guidelines, plant health certification must also be issued by DPI or an accredited grower and accompany each consignment. Three forms of certification are available:

- 1 Plant Health Certificate issued by a DPI inspector; or
- 2 Plant Health Assurance Certificate issued by a business accredited either under the Interstate Certification Arrangement (ICA); or
- 3 Plant Health Declaration issued by a business approved under a permit issued by DPI.

Movement Permits

In addition to the above certification, citrus consigned from an outbreak area must be covered by a permit, which specifies conditions for the movement of the produce. The permit may require a form of plant health certification to accompany it into, within or from an outbreak area. These permits are available from DPI and provide confidence that citrus will be handled correctly to ensure infested produce is not transported to unaffected areas.

Further Information

- DPI Plant Standards Mildura
Phone 50514500
- DPI Plant Standards Swan Hill
Phone 5036 4800
- DPI web address: www.dpi.vic.gov.au
Key word search - type 'plant standards'
- Web address to access ICA details:
www.dqmawg.org.au/go/ica/icadatabase

For more details about exporting citrus contact:

- Australian Quarantine and Inspection Service (Export) - www.aqis.gov.au
- Primary Industries & Research South Australia - www.pir.sa.gov.au
- Tasmania - www.dpiw.tas.gov.au
- New South Wales - industry.nsw.gov.au

Board Member Profile Peter Morrish

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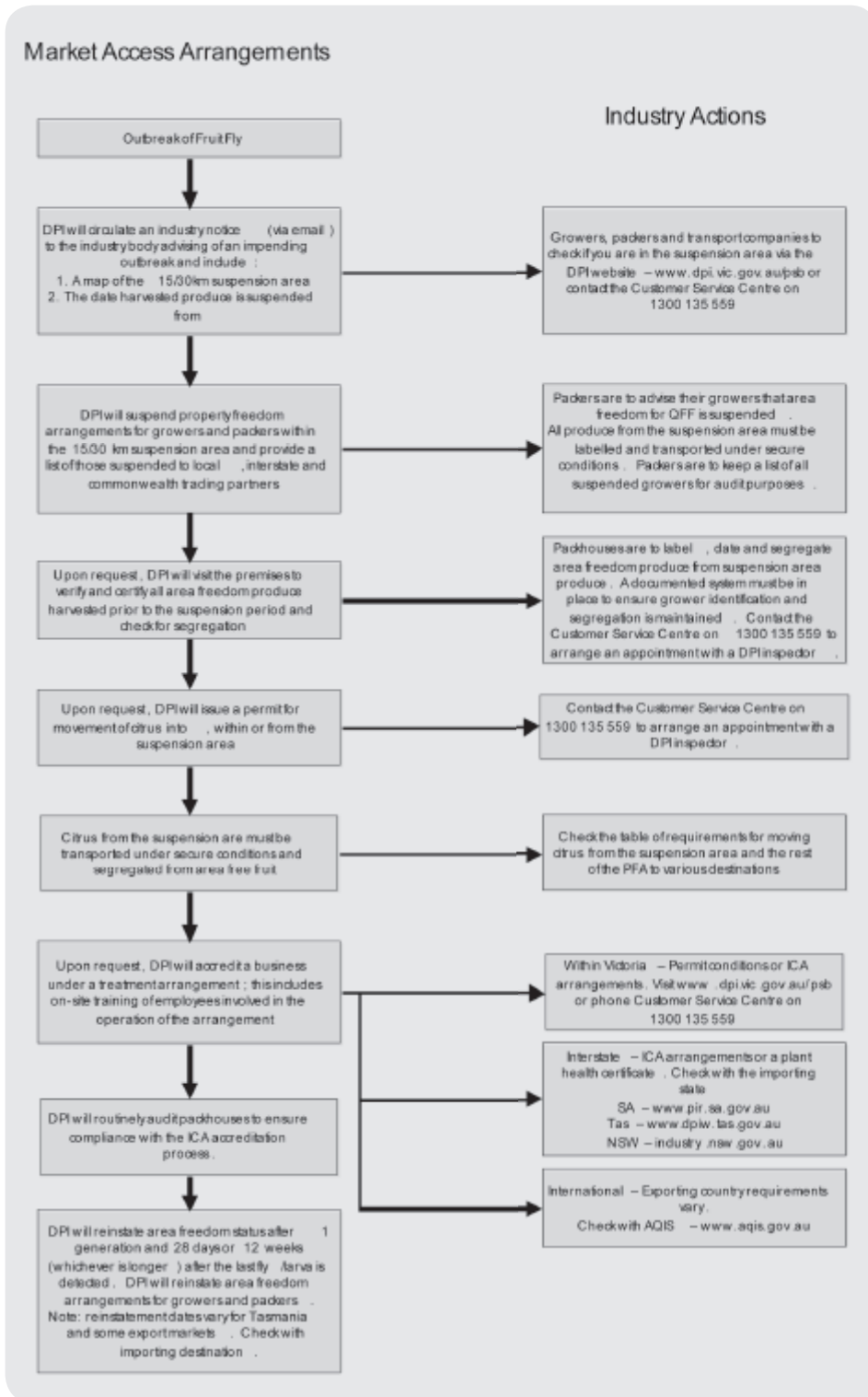
opened, but this process is slow. (China is a prime example of a potential market that is being limited by market access requirements.)

In returning to Mildura, I've noticed the generational change that has occurred in the dryland agricultural sector as well as in the dried and table grape industries and to some extent the wine grape industry. I believe this change is now on the verge of beginning in the citrus industry and the industry needs to be prepared to assist the development of the next generation in both on-farm operations and business management.

Agriculture is not the lifestyle choice it once was. Business owners and operators have to be across all aspects of the industry, including marketing and market access to fully understand the potential of their products and produce them within all OH&S, Quality Assurance and legislative frameworks.

The next generation need to be business managers, not just operators. I look forward to assisting current and future generations in the development of regional and Australian agricultural industries."

**E. Warhurst
Compiler**





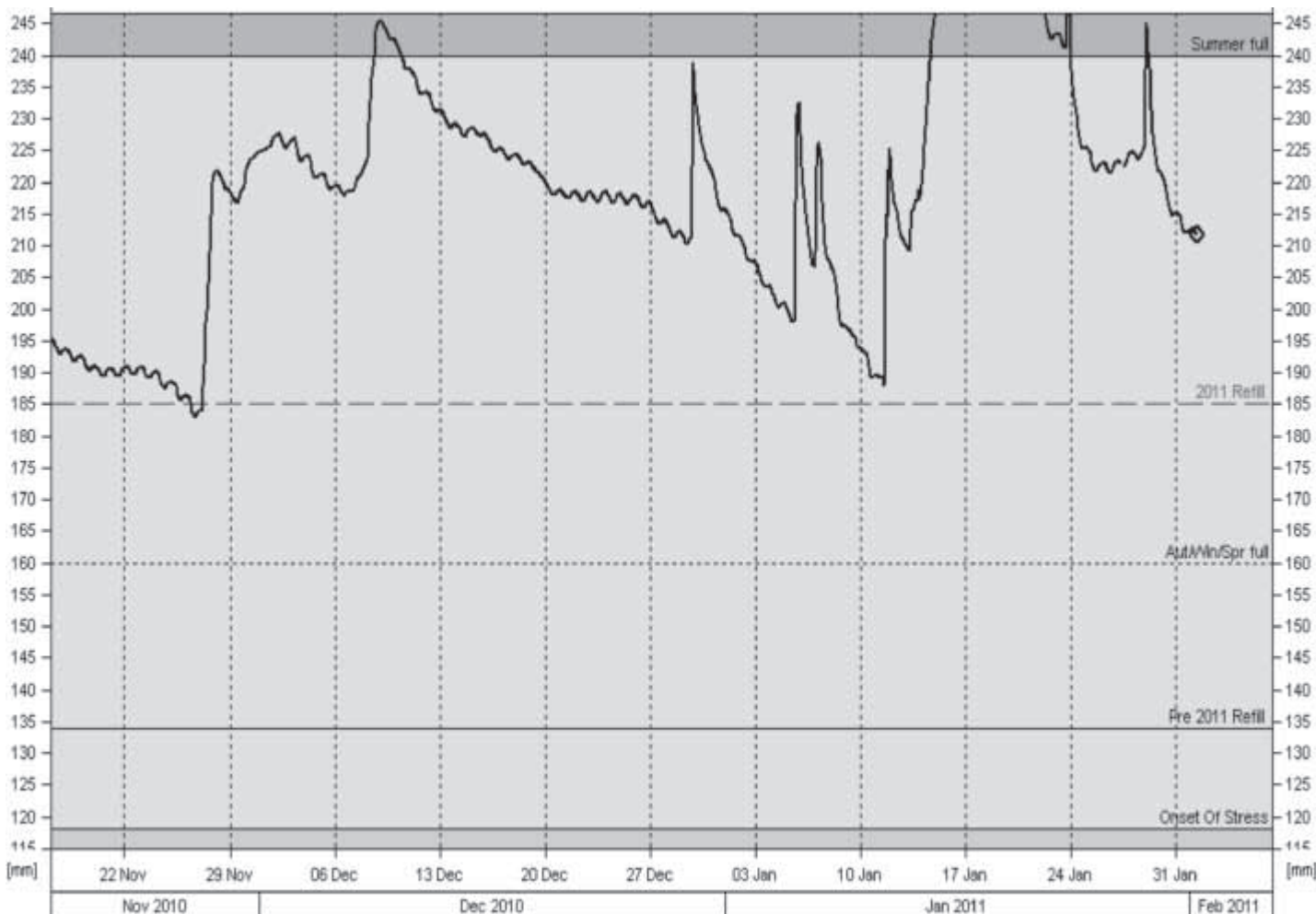
Jeremy Giddings

Irrigation Management This Season

The unusual weather and river conditions this season have resulted in some necessary changes to irrigation management. Some of these are described below.

- Greater levels of subsoil moisture have seen irrigation water penetration significantly increase. This has important implications if fertigating. An example of this is where standard four-hour irrigations that would normally result in water penetration to around 40cm (determined from soil moisture monitoring equipment) now reach 80-100cm, therefore pushing nutrients below the root zone.
- Greater levels of subsoil moisture have seen many irrigators needing to re-adjust their fill and refill lines for their capacitance probes. Generally, both lines have needed to move up. In the example shown, the refill line needed to be moved from 135 to 185mm. This may be a temporary situation, and the original lines should be retained for when dryer conditions return.
- Water tables have risen on many properties. Some crops have been observed drawing moisture from these watertables when the top part of the rootzone has been allowed to dry out. This is particularly the case if the original refill lines are retained. These water tables will have a greater level of salinity and crop damage may occur. A light irrigation may be necessary sooner than originally thought to rinse salts from the root zone and encourage preferential crop water use from closer to the surface. Soil salinity testing may be recommended, particularly if inundation has occurred.
- Water supplies are more turbid than in previous years. Regular flushing and drip system maintenance become more important in this situation. More frequent filter back flushing and cleaning may also be necessary.

Jeremy Giddings
Irrigation Officer, Industry & Investment NSW, Primary Industries



SunRISE 21 Inc.

The Use of Satellite Imagery and NDVI in Irrigated Horticulture

NDVI Technology

SunRISE 21 Inc. is exploring the use of NDVI (Normalised Difference Vegetation Index) from satellite or aerial photography imagery to monitor crop health and water requirement. Acquisition of satellite imagery over broad areas can be cost effective and can be updated to monitor seasonal change.

SunRISE 21 explains that NDVI is derived from the red and near infrared bands of satellite imagery and is an indicator of vegetation density and vigour. Green leaves give a much higher reflectance response in the near infrared than in the visible spectral range. As vegetation comes under water stress, its leaves become more yellow, they reflect significantly less in the near infrared range and the NDVI becomes a lower value. (See NDVI map on back page)

NDVI and IrriSATSMS

SunRISE 21 is collaborating with CSIRO for Land and Water on a Mildura trial of IrriSATSMS; an irrigation management tool using NDVI from Landsat imagery. IrriSATSMS was developed by the Cooperative Research Centre for Irrigation Futures (CRCIF) and CSIRO for Land and Water, Griffith. Trials are being undertaken in the Riverina and Mildura on citrus and wine grape crops.

How does IrriSATSMS work?

Satellite imagery is captured at regular intervals over the growing season and the infrared band is used to determine a crop coefficient and monitor plant performance. The satellite data is combined with real time evapotranspiration data downloaded from an automatic weather station, as well as data input to the system by the irrigator on actual pump run times and rainfall. The data is continually processed and updated to provide daily information to the irrigator via SMS or web interface to support irrigation management decisions.

NDVI and Irrigation Status

Using NDVI, water use data and SunRISE 21's crop mapping, SunRISE 21 has been evaluating the status of irrigated horticulture in the Victorian Mallee region. Irrigation Status Reports have been commissioned by the Mallee Catchment Management Authority (Mallee CMA) each season since 2007-08 to better measure rapid and profound changes occurring due to highly variable water allocations, current economic conditions and government water recovery programs.

An irrigation status report for 2011 is being commissioned, with results expected to be available mid 2011. The use of NDVI this season may well be complicated by the profusion of weed growth on abandoned blocks, necessitating a greater reliance on other data sources such as drive-by field checks, local knowledge and visual identification from the satellite imagery of plastic covers and netting; denoting irrigated crops.

The 2009-2010 reports are available from the Mallee CMA website <http://www.malleecma.vic.gov.au/resources/reports>:

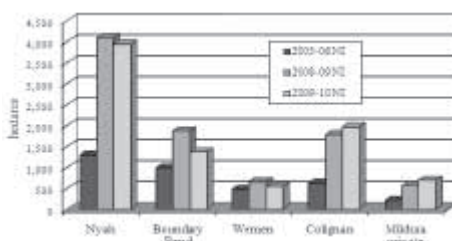
2009-2010 Irrigation Status Report Private Diverters and Nyah District, June 2010 Author: SunRISE 21 Inc., Published by Mallee CMA

2009-2010 Irrigation Status Report Pumped Irrigation Districts, June 2010 Author: SunRISE 21 Inc., Published by Mallee CMA

Results for **Private Diverters and the Nyah District** include the following information:

- Nyah to Mildura river reaches comprise 51,555 hectares of irrigable land; an increase of 12,905 hectares since 2005-06. The area not irrigated increased from 9% (3,600 hectares) in 2005-06 to 17% (8,515 hectares) in 2009-10.

Change in the area not irrigated (NI) per river reach



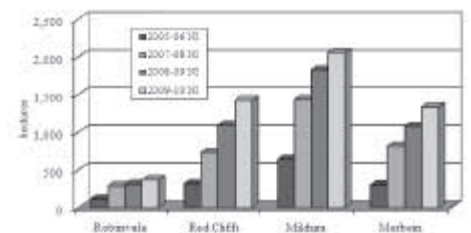
- The Nyah to Mildura irrigated area increased by 7,990 hectares between 2005-2006 and 2009-10. New plantings were predominantly almond and olive trees.

- From 2005-06 to 2009-10 there was a slight reduction in citrus plantings from 10% of irrigated area to 8%.

Results for the **Pumped Irrigation Districts** include the following information:

- The four irrigation districts comprise 16,110 hectares of irrigable land; a 120 hectare decline since 2005-06. The area not irrigated increased from 8% (1,370 hectares) in 2005-06 to 32% (5,180 hectares) in 2009-10.

Change in the area not irrigated (NI) per district



- The area not irrigated in all four pumped districts has continued to increase since 2006. The Merbein district has had the highest proportion of not irrigated areas, while Robinvale has been the least impacted.

For example:

10% of the Merbein district was 'not irrigated' in 2005-06, 26% 'not irrigated' in 2007-08, 35% 'not irrigated' in 2008-09 and 43% 'not irrigated' in 2009-10.

5% of the Robinvale district was 'not irrigated' in 2005-06, 12% 'not irrigated' in 2007-08, 13% 'not irrigated' in 2008-09 and 15% 'not irrigated' in 2009-10.

Small Block Irrigators Exit Grant

- A total of 80 properties in the pumped irrigation districts have, or are in the process of, taking the small block irrigators exit grant. These comprise: Merbein 27 properties, Mildura 22, Red Cliffs 27 and Robinvale 4. They also represent 3% or 548 hectares of the irrigable land across the four pumped districts.

SunRISE 21 Inc. *cont'd...*

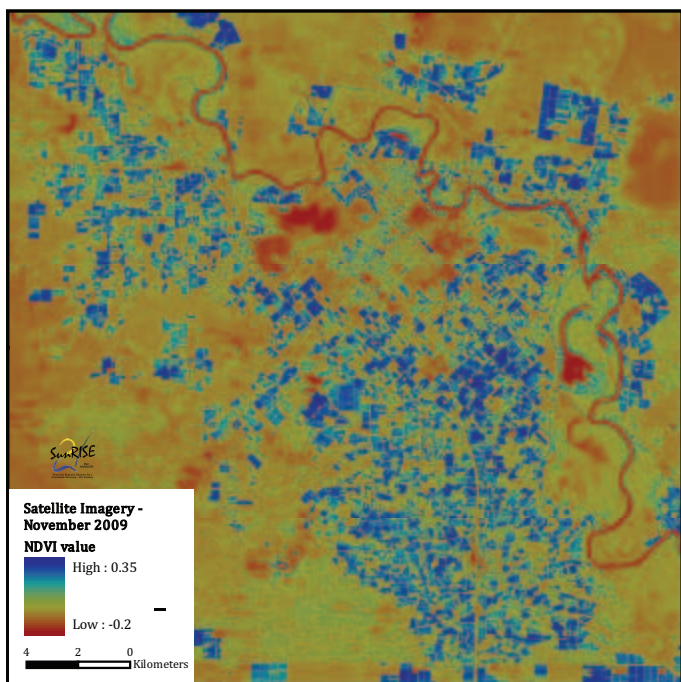
Change in Crop Type

- At least 8% (1,300 hectares) of the pumped irrigation districts irrigable area was replanted or reworked between 2005-06 and 2009-10. This is a conservative figure as not all new crops were surveyed by SunRISE 21. New plantings were predominantly grapevines or vegetables.
- Between 2005-06 and 2009-10, 130 hectares of citrus plantings were removed and 35 hectares of new citrus was planted; a 27% reduction of citrus in the pumped districts.

The reports include valuable information for irrigators across the region, including citrus growers, as well as providing baseline data for future decision making. Irrigation status for citrus plantings was validated against the Murray Valley Citrus Board's plantings database which provided reliable and valuable information.

NDVI (Normalised Difference Vegetation Index)

An NDVI map for the Sunraysia area is shown below. Colours range from deep blue to pale blue, to yellows, oranges and red.



Deep blue denotes the highest NDVI indicating the most vigorous vegetation. In the Irrigation Status studies, blue areas coinciding with the SunRISE 21 crop mapping were considered to be irrigated, while yellow, orange and red areas coinciding with the crop mapping were generally assessed as not irrigated.

Of interest to citrus growers may be the results of the study with respect to crop type changes from 2005-2006 to 2009-2010. It should be noted that the study area was in Victoria only.

2011 National Citrus Plantings Database Underway

2011 National Citrus Plantings Database The citrus industry is at the forefront of using mapping and spatial information technologies to coordinate citrus plantings information at the National level. The system is known as the National Plantings Database (NPD) and in 2011 an update to the 2008 NPD (27,590 hectares of citrus across 1,957 properties) will be undertaken.

Having completed 2003 and 2008 NPDs across the main citrus growing regions of Australia, SunRISE 21 Inc. has been contracted by Citrus Australia Ltd to undertake the 2011 update with funding from Horticulture Australia Ltd (HAL) in collaboration with regional citrus state boards. The NPD comprises mapping, providing location and accurate areas of plantings, and an associated database with details such as variety, tree age, and tree numbers. Details are collected from growers through surveys incorporating individual property maps, copies of which can be retained by growers for property records and planning.

The NPD provides valuable information for industry planning, marketing and biosecurity measures. It incorporates planting statistics (without grower names or property details) from mapping and databases maintained by the Murray Valley Citrus Board, Riverina Citrus and the South Australian Citrus Industry Development Board for growers in their regions.

