Riverland Wine Industry Development Council Inc.

Australian Government
Grape and Wine Research and Development Corporation

CropWatchOnline.com (Taking e-tech to growers)



FINAL REPORT to

GRAPE AND WINE RESEARCH & DEVELOPMENT CORPORATION

Project Number: RT 04/14-3

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Research Organisation: **Riverland Wine Industry Development Council**

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Key Acronyms

CWOL – CropWatchOnline.com

CRCV – Cooperative Research Centre for Viticulture

MVGWTA - McLaren Vale Grape Wine and Tourism Association

RWIDC – Riverland Wine Industry Development Council

SARDI – South Australian Research and Development Institute

1. Executive Summary:

An electronic tool, CropWatchOnline.com® has been enhanced and launched for grape-growers in two regions, the Riverland and McLaren Vale. Adding value to data and information by converting it to easily available knowledge is a strength of the Australian wine industry. By building capacity to communicate and an improved competency, the industry is better positioned to respond and adapt to the dynamic nature of the environment in which it operates.

Tools such as CropWatch® and CropWatchOnline.com® have been improved and presented to assist growers with access to accurate, reliable and timely information. This infers a responsibility to constituents – providing the best service possible becomes the driving force behind delivery. Recognition and deployment of advances in information technology provide the key to developing an electronic delivery service for CropWatch and a raft of viticultural information for Australian grape-growers.

The World Wide Web and Email are ideal portals for information exchange and provide enormous opportunity to those with the ability to embrace its potential. Large amounts of data can be accessed, analysed and presented. CropWatch® has much to gain by exploring the electronic medium.

With this technology at our fingertips, a future where automatic weather stations and the Bureau of Meteorology can electronically interface with CropWatchOnline.com® to produce predictive warnings or outbreak alerts for disease and pest is presently available with manual operation. From a technical basis, automation of this service is not that far away. CropWatchOnline.com® is leading the charge in Australian viticulture to become the pre-eminent holistic 'one stop' internet site for wine-grape growers nationally.

Throughout this project word has been spreading with regard to the value of CropWatch, the weekly disease and pest advisory service for specific regions. At the end of 2005/06, this service was operative in the Riverland and McLaren Vale. However, many other districts are now enquiring about the availability of the service to their growers. At the recent Riverland field days there were a number of requests from Adelaide Hills and Barossa Valley growers. Furthermore, Landmark (thanks to the efforts of James Hook) in liaison with CropWatch SA®, has initiated CropWatch message services within Langhorne Creek and Clare Valley for the 2006/07 season. There is a growing interest in the CropWatch® service and in this regard, CropWatchOnline.com has played a big role in its promotion. People are able to see what is happening in other regions and are asking why similar programs are not being facilitated in their districts.

During the course of this project, workshops held in both the Riverland and McLaren Vale introduced many growers to the practical applications of computers in the wine-growing business. CropWatchOnline.com provides four basic information modules for growers: access to weather data and forecasts, a tool for disease diagnosis, industry news, and the weekly CropWatch® message. All are easily available and allow the user's confidence to blossom when accessing the electronic media for relevant viticultural information.

Should CropWatchOnline.com continue to grow and more regions come on board, users from a wider cross-section of Australian viticulture will be able to navigate through the site and view the weekly messages. Since anyone with access to the web can access this free-to-air service, in effect, CropWatchOnline.com can act to give a snapshot of the broader industry at any given time (weekly intervals). Users, in essence, have the potential to look beyond their own backyard and gain a greater appreciation for the dynamic function of the whole industry.

This sharing of information, experience and knowledge can only act to strengthen our industry. Improving access and the ability to use computer technologies will significantly improve our

capability, as an industry, to communicate - thus facilitating avenues for informed decision making, providing leadership and improving the industry's preparedness to respond.

CropWatch® has grown from its humble beginnings as a disease and pest information service. It now, via CropWatchOnline.com, embraces the industry and will continue to explore new boundaries in the endeavour to keep the wine-growing community at the forefront of innovation, extension and technology whilst still offering a practical viticultural information service of the utmost integrity.

Thanks to CropWatchOnline.com (www.cropwatchonline.com) users now have access to information when they need it.

2. Background:

CropWatch SA® had been operative in delivering disease and pest management advice to the Riverland since 1995-96 while CropWatch McLaren Vale had been operative since 2003-04. CropWatch SA® is a business name owned and registered by the Riverland Wine Industry Development Council (RWIDC) while CropWatchOnline.com is a business name jointly owned by the RWIDC, the South Australian Research and Development Institute (SARDI) and McLaren Vale Grape Wine and Tourism Association.

CropWatch gathered and distributed vineyard monitoring and weather information across the Riverland and McLaren Vale. It alerted growers to the likelihood of disease and pest incidence, such as downy and powdery mildew and Lightbrown Apple Moth. This service, combined with their own monitoring, meant that growers could make informed, timely decisions for effective control practices. CropWatch delivered environmental and economic benefits through minimising chemical use by maximising efficiency of disease and pest control practices. The service also provided a valuable tool for communicating on a weekly basis with the grower community and was an effective avenue for raising awareness of local extension and research and development activities.

Figures from July 1 2004 showed that 30% (186) Riverland growers and approximately 76% (165) McLaren Vale growers received their message by e-mail. The remaining growers received their message by fax. However, increasing demand for accurate and timely information had been noted. The indications were that CropWatch messages with links to websites and pictures e-mailed to growers would add value to the service. Growers were looking for more advanced tools such as visual aids to assist with practical vineyard management.

Wine-grape producers in the Riverland and McLaren Vale enthusiastically supported the development of a CropWatch web-based service. It was believed an online service would enable growers to access up-to-date information on local weather conditions, CropWatch messages including Downy Mildew warnings (alerts), relevant weather forecasts and a host of additional viticultural information. A more immediate service would assist with timely management decisions in individual vineyards. In addition, it was considered that a web service could provide an easy to use resource for information on disease and pest identification and control.

The Wine-grape Grower Information Needs Survey (CRCV, M. Dignam, 2003) reported that only 9% of growers felt that they could use a computer for production or disease management purposes. The report also recommended "hands-on information such as workshops, to break down some of the evident technology barriers". In McLaren Vale, weather data had been made available on the AgWise web site during 2003/2004. Approximately 25% of growers receiving CropWatch messages accessed AgWise and feedback not only centred on the usefulness of these data but also the need for a more user-friendly, interactive site. CropWatchOnline.com had all the attributes of a website that could fill this void. However, appropriate training was required to allow growers to gain confidence in navigating their way around the website.

As an industry there was a general acceptance that electronic methods of communication offered a great many benefits. CropWatchOnline.com provided an ideal opportunity for growers to enter the age of information technology and gain confidence in its use. Wineries also acknowledged that the internet would soon be their preferred avenue of communication and enthusiastically embraced the concept of information being available when it was needed – the core philosophy of CropWatchOnline.com.

3. Objectives:

The aim of the project was to build on the success of the CropWatch programme and develop the existing web based service, CropWatchOnline.com.

The goals of CropWatchOnline.com were as follows:

- Be reliably hosted by a relevant ISP and maintained by a webmaster.
- Be the illustrative and interactive home for the CropWatch message.
- Provide up-to-date information on weather, disease and pest and grape quality issues.
- Host local grape industry news and industry events of significance to both the regions and the broader industry.
- Be available 24 hours a day, seven days a week and be updated at least weekly.
- Host web-links, allowing greater access to industry relevant information.

The present project also allowed for the launch of the service at key regional centres, and to facilitate the training of growers in the use of the website. A strong focus was placed on introducing growers to the role and benefit of their use of home computing in grape growing.

4. Method and Results:

The formation of a management team for CropWatchOnline.com incorporating representatives from RWIDC (Julie Sippo), SARDI (Peter Magarey and Justin Dixon - now with SAMRIC), MVWGT (Lucy Hyde & James Hook), and the CRCV (Bridget Ransom) signalled the start of this project.

The management team was responsible for:

- Coordination of Web-site development;
- Development of a business plan;
- Designing a corporate logo;
- Commissioning an online tutorial;
- Commissioning a promotional flyer; and
- Introducing a series of workshops and training sessions for growers.

Coordination of Web-site development

The development of the CropWatchOnline.com web-site has continued. Improved presentation of the various web-screens has occurred as has the development of easy access to Bureau of Meteorology web-site for regionally orientated forecasts and access to most recent data from the Bureau's automatic weather stations. Access to the ***Disease Diagnosis*** module has been improved so that users are more easily able to switch between component modules within the CropWatchOnline.com web-site.

These developments have been undertaken at the direction of the CropWatchOnline.com management team. To view the outcome of this progress, go to www.cropwatchonline.com.

Development of a business plan

With view to establishing CropWatchOnline.com as a business agency with national coverage, a draft business plan has been developed. It is expected that when complete, this document will provide a foundation to launch CropWatchOnline.com for more effective up-take and adoption by grape-growers across Australian viticulture.

In summary, the plan outlines the direction the Management team anticipate the service will take.

Vision

- *By 2010 CropWatchOnline.com will be the leading Internet-based provider of dynamic viticultural information for Australian grape growers.*

Mission

- *Our mission is to develop and provide Australian grape growers with an easy to use, valuable online tool, specific to their region. CropWatch Online will provide growers with accurate advice and timely information that will benefit their business and industry.*

Values

Value	Which Means …….
Independence	Retain independence by being an unbiased provider of relevant viticulture information
Reliability	Maintain reputation by being up-to-date and accurate
Accuracy	Ensure information is reliable, correct and of quality
Relevance	Information is important and useful to growers
Simplicity	Easy to use, navigate and understand
Credibility	Information is reliable and well sourced
Trustworthy	Independent and ethical
Swift	Daily information and appropriate warnings are updated and delivered in a timely and accurate manner
Useful	Information is relevant
Valid	Information is sourced and credible
Transparent	The website remains independent; on-line activities are carried out in such a way as to remain unbiased
Honest	Build ethical reputation
Beneficial	Useful, meaningful information (website relevant and up-to-date)

Customer Benefits

The key benefits that our customers gain from utilising CropWatchOnline.com are:
Up-to-date, relevant information for the grape grower Education resources Weather Stations Helpful resources Publications Managing Disease Water Management Links to other useful resources Regional industry news and events

For further detail relating to this document, refer to Appendix 1.

Designing a corporate logo

A logo to represent the new web-service in Australian viticulture was prepared. This logo was then used on a variety of advertising media that flowed from this project.

To view the logo, see Appendix 2. For further details of the publicity given to the service, see below.

Commissioning of an online tutorial

A self-guided tour of the CropWatchOnline.com web-site was prepared as an on-line tool for growers to use. A similar tool was prepared as a PowerPoint presentation for use at workshops and training tutorials.

These tools have been used to present the service to a variety of training sessions and field day events across the Riverland and McLaren Vale regions.

To view the online tutorial please visit www.cropwatchonline.com .

Commissioning a promotional flyer

An A4-sized full-colour promotional flyer was prepared, printed and made available to growers in the Riverland and McLaren Vale regions. To view the promotional flyer, see Appendix 3.

The flyers were widely distributed to attendees and participants at various workshops, field days and training sessions conducted in each region.

At the Riverland Field Days in 2006 alone, some 600 flyers were distributed. Strategic media releases were also part of the advertising program and several articles were published in leading grape industry journals. For examples of promotional activities, see Appendix 4.

CropWatchOnline Promotional Hats

In addition to the above promotional material, five hundred bucket hats with the CropWatchOnline.com logo were produced and distributed at both the training sessions and field days in both regions.

Introducing a series of workshops and training sessions

The local regional industry associations RWIDC and MVWGTA organised in their own specific regions the advertising of CropWatchOnline.com and the training of growers in its use.

Riverland training sessions were conducted during 2005/2006 at:

- The Loxton Research Centre - in conjunction McGuigan Simeon Wines Ltd grower training workshops (60 growers attended)
- The 2005 and 2006 Riverland Field Days
- The Barmera Monash Football Club – in conjunction with the PGIBSA annual grower meeting (90 growers)
- The Loxton Research Centre – combined Agriculture Bureaux event (60 growers)

Further to this training, in early December 2006, CropWatchOnline.com was presented to both science teachers and interested high school students as part of the GrowSmart program in the Riverland. The nature of this program is to provide examples of horticultural sciences at work and encourage students to go on to further education within the field. This presentation was very well received.

McLaren Vale training sessions were conducted during 2005 at:

- the McLaren Vale Visitors Centre;
- the McLaren Vale Bocce Club; and
- in conjunction with the Hardy Wine Company, at their annual spray information day.

The training sessions demonstrated the benefits of the CropWatch programme with a focus on the web-based service. In addition an insert into d'Arenberg Wines Pty Ltd spray diary was included for the 2005/06 season.

The first training session and McLaren Vale launch occurred in September 2005 and was attended by 35 McLaren Vale grape growers. James Hook and David Sanderson (Hardy Wine Company) demonstrated the extensive features of CropWatchOnline.com and showed how to download and interpret internet weather data.

The special guests were Kym Richardson, Federal Member of Parliament for Kingston, and Robert Brokenshire, the sitting State Member of Parliament for Mawson (at the time), spoke of their support of McLaren Vale CropWatch and the efforts of the grape growing community to improve production.

A fact sheet on using internet weather data and CropWatchOnline.com was produced from this session and circulated to the 300 CropWatch McLaren Vale users.

The second session at the McLaren Vale Bocce Club was attended by 40 grape growers.
Special guest Dr Trevor Wicks – SARDI gave a pest and disease information session, and reviewed CropWatchOnline.com.

In conjunction with the Hardy Wine Company, CropWatchOnline.com training took place at the Hardy's Spray information session in November 2005. Three sessions were held over one day and a total of 120 growers participated in morning, afternoon and evening sessions.

CropWatchOnline.com is now widely promoted in the weekly CropWatch SA and CropWatch McLaren Vale messages (and also in the CropWatch messages delivered to growers in Langhorne Creek and Clare valley – see later). Electronic links to the site are regularly incorporated into the body of the text within the CropWatch message. This allows easy access to more information than can be included in the CropWatch message and has the added advantage of fostering use of CropWatchOnline.com.

For examples of the CropWatch messages from each region, see Appendix 5.

Whilst CropWatch SA and CropWatchOnline.com remain separate entities they mutually co-exist and the gap between the two services is narrowing.

5. Discussion:

Computer use amongst growers in many regions of Australian viticulture is on the increase. In a recent survey (Riverland Wine Industry Regional Profile 2005) of 250 Riverland growers, 71% of respondents noted that they used a computer – either for home use or for viticultural use. The survey also asked if growers would use an internet site to receive or send information. The majority of growers responded favourably with 73% noting that they would be prepared to use an internet service.

In delivering the Riverland CropWatch service, e-mail recipients have grown both in number and in proportion of total recipients increasing from 30% (186) in 2004 to 49% (348) in 2006. This increase in numbers is most encouraging but remains significantly below the number of growers who, within the Riverland wine Industry Regional Profile 2005, indicated they used computers. Our goal is to achieve a higher rate of adoption both among those who have and use computers, and among those who at present do not use this technology.

After compiling the qualitative results of a Riverland CropWatch SA survey in March 2006, it would appear that significant cultural barriers to the use of web-based tools still exist. Several growers noted that with the facsimile service they can see the message sitting on their machine whereas on the computer it is 'out of site out of mind'. These growers preferred a 'push system' where information is delivered to them whenever a high risk event was imminent – in this case the message is initiated by the CropWatch service and sent to growers. This is distinct from the CropWatchOnline.com web-site which provides a 'pull system' where the information must be pulled off the web-site as initiated by the growers who choose to access the site.

Anecdotally a number of growers have remarked during the training sessions that their ISP is too slow. This is a source of frustration when downloading sizable files. In these circumstances, the operation of CropWatchOnline.com is restricted. Though for some potential users, this is a significant barrier to further adoption of CropWatchOnline.com, with continuing improvements in internet infrastructure in the region, the uptake of electronic media services will increase.

A sign of success for the advertising efforts via CropWatchOnline.com and the quality of the CropWatch message service has manifest itself in the level of interest generated from regions not yet receiving CropWatch. Enquiries have been received from industry personnel in Western Australia, Barossa Valley, the Murray Valley, Hunter Valley and the Adelaide Hills.

In 2006-07, Landmark seized the opportunity presented by the successful operation of CropWatch in Riverland and McLaren Vale and in association with SARDI at Loxton, initiated the CropWatch service in Langhorne Creek and the Clare Valley. Whilst these region are not yet represented on CropWatchOnline.com it is hoped they will become a valuable addition in the not to distant future.

On a slightly disappointing note for growers in the Murray Valley, the Victorian Government has withdrawn the funding for 'Horticultural Hotline' – the Murray Valley's equivalent of CropWatch SA. However there are moves afoot to seek the introduction of CropWatch into that region and again, this could represent an additional welcome extension to the CropWatchOnline.com service as it continues to be devolved across Australian viticulture.

6. Budget reconciliation:

The project was completed on budget.

The final agreed amount of GWRDC funding for the workshops including GST was $21,285, of which 50% ($10,643) has been received by the RWIDC.

The total expenditure of the project of $21,283 is within $2 of the agreed budget. The RWIDC will require $10,641 from the GWRDC as part of the second payment. The RWIDC will raise an invoice for this amount upon approval from GWRDC.

On the following page is a budget reconciliation as it related to the original GWRDC application for $21,285

Table 1: Approved Budget

Budget	Original GWRDC Request	Original Local Contribution
Consultant	$ 12,000	$ -
Workshop Facilitator	$ 750	$ 750
Venue and Equipment	$ 1,500	$ 450
Resource Pack	$ -	$ 750
Travel Expenses	$ 800	$ 800
Project Co-ordination	$ 450	$ 4,800
Administration	$ -	$ 2,400
Evaluation	$ -	$ 3,000
Advertising & Promotion	$ 1,500	$ 1,500
Catering for Participants	$ 2,250	$ 500
Total	$ 19,350	$ 14,600
Goods & Services Tax	$ 1,935	$ 1,,460
Total incl. GST	$ 21,285	$ 16,060

Table 2: Project Expenditure

Expenditure Item	GWRDC Funding Expended	Local Contribution
Launch & Training (McLaren Vale)	$ 3,547	$ 2,000
Launch & Training (Riverland)	$ 3,744	$ 1,890
Consultants – Product Development	$ 10,432	$ 9,332
Advertising & Promotion	$ 3,560	$ 3,340
Total	$ 21,283 (inc. GST)	$ 16,562

Appendix 1 – CWOL Business Plan

CropWatch Online

Business Plan

June 2005 – June 2006

www.cropwatch.com.au

Our Vision

By 2010 CropWatch Online will be the leading Internet based provider of dynamic viticultural information for Australian grape growers.

Our Mission

Our mission is to develop and provide Australian grape growers with an easy to use, valuable online tool specific to their region. CropWatch Online will provide growers with accurate advice and timely information that will benefit their business and industry.

Our Values

Value	Which Means …….
Independence	Retain independence by being an unbiased provider of relevant viticulture information
Reliability	Maintain reputation by being up-to-date and accurate
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Relevance	Information is important and useful to growers
Simplicity	Easy to use, navigate and understand
Credibility	Information is reliable and well sourced
Trustworthy	Independent and ethical
Swift	Daily information and appropriate warnings are updated and delivered in a timely and accurate manner
Useful	Information is relevant
Valid	Information is sourced and credible
Transparent	The website remains independent; on-line activities are carried out in such a way as to remain unbiased
Honest	Build ethical reputation
Beneficial	Useful, meaningful information (website relevant and up-to-date)

Competitor Analysis

Competitor	Strengths and Weaknesses	
Vineyard Shop	Strength:	• Uncontracted fruit register
	Weakness:	• Dialup very slow
Farm Online	Strength:	•
	Weakness:	• Fee for service
This is a cooperative, linked website. • CRCV • GWRDC • PGIBSA	Strengths:	• Free information • VitiNotes • Pest and disease information • Continuing post-CRCV • Cooperative link to CropWatch OnLine
	Weakness:	•
Bureau of Meteorology	Strength:	• Weather
	Weakness:	• Not viticulture specific

SWOT Analysis

SWOT	Nature Of	Which Means That (Impact)
Strengths	• Widely available – wide distribution	• Internet delivery
	• Established SA name	• CropWatch name readily identifiable
	• Photographs and links to other information	• Visual information and provider of sourced data
	• Excellent appearance	• User friendly; ease of navigation
	• Qualified technical assessment	• Content and operation of website
	• Uniformity of message – appearance	• Regional data presented in uniformity of manner for all regions
	• Consistency of message – same person assessing	• Accurate and reliable
	• Exclusivity of service	• Primary deliverer of pest and disease information to the viticulture industry
	• Cost – appears to be free	• Service to growers

	• Reliable	• Accurate and timely; readily available 24/7
	• There is a need for the service (in McLaren Vale)	• All key grape growing regions in Australia represented
	• Transferable/transportable	• Access via Internet 24/7
	• Credible scientific support	• Well sources and credible information
	• Delivers access to WAP technology	• In field access
	• Platform to other pest and disease information	• Links to alternative sources of information provided
	• Modularized	• Information or area specific
	• Easy access and use	• Navigation easy to understand
	• Upgradeable	• Add to existing information as needed
	• Dynamic	• Information amended on daily basis
	• Format is logical	• Ease of use
	• Workable for *some* older technology	• Availability
	• Unique array of services provided	• Industry support will continue to provide superior information and delivery of the service.
	• One – Stop – Shop!	
	• Pull service – accessible 24/7	
	• Already embedded in industry – has many partners	
	• Hosted for free by IP that has excellent expansion capability	• Ability to grow and develop

Weaknesses	• Email and fax – not catered for – relies on web technology	• Assumption that all growers (users) have access to Internet technology
	• Online reliant – computer speed, connection speed etc	• Remote connectivity – an issue in some areas
	• Not recognized across Australia	• 'CropWatch' name associated with South Australia – does not reflect a national delivery service focus
	• No disability access – type size and photograph detail (audio?/streaming video)	• Needs to be assessed to allow disability access
	• Market is not online	• Barriers to existing technology (cost for computers/Internet provision/remote delivery)
	• Do not have all marketing activities in place	• Marketing plan needs to be devised and activities commenced
	• Push service – some clientele 'uncontactable'	• Some people choose not to be contactable
	• Not self-funded	• Future funding needs to be determined and plans put in place to become self-funding in order to preserve longevity
	• No regional site administration	• Regional sites need to feed into service – marketing and promotion into regional areas; support systems to be developed
	• Lacks regional content and features	• Key grape growing regions need to be determined and established to build on current features delivery
	• Theft and emulation of our service	• Complete competitor analysis

Opportunities	• Broaden client base	• Develop further grape growing regional information; marketing and promotion
	• Link with other organisations, incorporated into education schemes eg TAFE, Uni etc	• Promotion at educational levels to be built into marketing plan
	• Links to other information sources eg Viticare, CRCV Fact sheets, GWRDC, PGIBSA	• Set up links with key industry organisations (eg CRCV); provide online links to other available and relevant services
	• More local content	• Local content must be developed in relation to key grape growing regions in Australia (risk of becoming too SA parochial)
	• Provision of service to other regions	• All key regions need to be developed and represented on the web service
	• Revitalize Crop Watch as service – markets the CW service	• Marketing and promotion plan
	• Incorporate irrigation and salinity related content	• Source current irrigation content
	• Irrigation scheduling information	• RMCWMB links
	• Increased links with BOM	• mapping previous data
	• Increased online partnerships and information provision	• Develop sponsorship packages to attract key partnerships and other sources of information
	• Incorporate GIS into the provision of existing weather/P&D information	• Part of product development
	• Generation of the funding/revenue for continued service	• Marketing and promotional planning; development of sponsorship packages

Threats	• Lack of relevancy – turning stale	• Offering 'more of the same'; nothing new
	• Loss of suitable technical base in McLaren Vale – eg weather station service	• Agrilink intend to wind down weather stations over the next few years
	• External competing service	• Competitor analysis necessary; work with not against competitors; offer point of difference
	• Costs to regions – web service/maintenance, time, personnel, infrastructure	• Cost analysis (esp region by region)
	• Lack of acceptance by other regions – negativity – 'South Australians'	• 'CropWatch' name associated with SA; consider marketing options to generate profile as a national service
	• Breakdown of relationships between partners	• Who is doing what? When and how much?
	• Downturn in industry – end of levy – continuity of personnel	• Consider industry impacts as a whole
	• Perception that it is not required as an e-service	• More of the same?
	• Flexibility of Internet service provider(s)	• Shop around to obtain best, most efficient quote for current and future needs

Customer Survey

Zoomerang web survey 100 people free (also marketing opportunity)

The CropWatch Online team need to further investigate other potential competition within the Australian (and perhaps New Zealand) marketplace.

Customer Benefits

The key benefits that our customers gain from utilising our products/services are:
• Up-to-date, relevant information for the grape grower • Education resources • Weather Stations • Helpful resources • Publications • Managing Disease • Water Management • Links to other useful resources • Regional industry news and events

Marketing Strategies

4 P's	Strategy
Product/service	• Develop differing levels of sponsorship packages
Price	• Cost out sponsorship packages (different features for each level)
Promotion	• Develop a brochure targeted at advertising sponsorship packages
Place (Distribution)	• Include information on the website about sponsorship packages • Promote via regional publications (ie free editorial or paid advertising) • Use current networks to promote

Production Strategies

Key Dimensions	Strategies
Capacity	• PIRSA and SARDI to provide on-going maintenance of the CropWatch Online service. • Daily updates • Management team appoints and reviews appropriate ISP. • Management Team to assist in building regional capacity • Management Team to appoint and review consultants as necessary.
Scheduling	Who does what in relation to the website? • RWIDC Message loading to web site requirements for the Riverland (directly or indirectly). • MVGWTA Message loading to web site requirements for the McLaren Vale (directly or indirectly). • Up-to-date activities postings and removal of old information.
Quality Output	All content governed by the goals and ethical values set by owners' partnership. • RWIDC and MVGWTA manages all contractual arrangements for technical services, data collection, message development and message delivery (fax and Email) for CropWatch® in the Riverland and McLaren Vale regions respectively.

People Strategies

Key Dimensions	Strategies
Job Roles	Maintain equal representation from stakeholder organisations on the management team.
Recruitment, Retention & Succession Planning	Through stakeholder groups Management team specs
Remuneration & Incentives	In-kind contribution from stakeholder groups
Work Environment	n/a
Learning	In accordance with dynamic service
Training & Development	Appropriate professional development as appropriate
Compliance	Up to date
Evaluation	Yearly review

Quality Strategies

Key Dimensions	Strategies
Quality Policy	• Develop a quality policy for ongoing development and maintenance of the CropWatch Online service.
Quality Systems	• Ensure the quality policy is highly visible on the website
Continuous Improvement	• Gather customer feedback via surveys (conducted at regular intervals)
Other	• Implement new suggestions, features and/or procedures in a timely and accurate manner • Who will be responsible for implementing procedures as above?

Action Plan

Strategy	Actions	Person Responsible	By When
MARKETING:			
Targeted promotion of the CropWatch Online service	Develop promotional product sheet (distribute widely) *It was felt that distribution could be done through the CRCV newsletter and the regional association mailings in McLaren V and the R'land*	McLaren V and CRCV to develop the product sheet.	First quarter of 2006.
	CropWatch Online to be available as links on other industry websites (eg CRCV)	PIRSA also to fix links.	First quarter of 2006.
	Editorial content (via the CWOL team newsletters, websites etc)	McLaren V's 'CWOL takes a byte' item. McLaren V to discuss with CRCV. Committee to contribute where possible.	Ongoing. Committee to include on agenda at least every six months.
	Promote at regular industry events (seminars, field days etc)	R'land Field Days – SARDI. McLaren V Field Days – McLaren V.	Ongoing. Budget of up to $1,000 per event(?)
PRODUCTION:			
Daily maintenance of the website	Provide timely and accurate information	PIRSA to maintain. Others to contribute.	
	Disease warnings issued as and when relevant	McLaren V in McLaren V, SARDI in R'land – nominees need to be identified in case of absence.	

	New information and features introduced in timely and accurate manner	McLaren V and SARDI to be the principals, however should be regularly reviewed at all meetings as a standing agenda item.	Every meeting.
	Ease of navigation maintained	(See below)	
PEOPLE:			
Who will do upgrades of the site on an on-going basis?		PIRSA.	
QUALITY:			
Gather customer feedback	Develop survey process	McLaren V to develop draft. Submit to the Committee for feedback. Prizes to be discussed, such as subscription / voucher to Winetitles.	First quarter of 2006.
	Schedule surveys at regular intervals	Online opinion poll to be discussed.	Next meeting.
	Evaluate feedback and implement changes to CWOL as necessary	Committee.	Once survey conducted.
SUPPORT:			
CWOL Team	How do we maintain the enthusiasm of the current team (committee)?	Regular meeting schedule for 2006 to be developed. Suggest alternating host and minute taker.	2x Video or 'phone hook-ups, 2x face-to-face.
	How do we attract new input to the team?	Alternates to be put	Next meeting

		forward.	with annual update.
	Who is responsible for what within the current team?		
FINANCIAL:			
Who is responsible for the budget?	Budget development	RWIDC.	
Who is responsible for on-going funding?	Funding options?	Committee.	To be discussed at the next meeting. SARDI to advise.
How does CWOL become self-funding?	Consider sponsorship packages		
Legal protections		PIRSA to include a disclaimer on the site. CRCV to provide a sample disclaimer.	First quarter of 2006.
EDUCATION AND TRAINING:			
How is training going to take place?	Consider; • On-line tutorial • CD tutorial • Booklet with Q&As / problems • Tie in with other activities such as Ag Bureaux or other seminars	CRCV can assist in the development of on-line or CD training programs.	Discuss at next meeting.

Monitoring the Plan

Meeting	Who Will Meet?	• Existing stakeholders of; PIRSA, McLaren Vale Assn, Riverland Assn, with other assistance as required (CRCV)
	When/How Often	• Four times per year with agreed pre-set dates; two face-to-face meetings and two teleconference / telephone hook-ups
Data	What Data Will We Need?	• Refresh competitor analysis. • Changes in technology; new technologies, data on 'hits' to website, mobile 'phone data, number of users and vehicle used (fax, e-mail, web download, other). • Survey results • Financial data
	Who will Collect?	• Committee generally. • PIRSA on web stats • McLaren V and CRCV to look at on-line surveys (refer. Zoomerang) • RWIDC and SARDI to clarify financial status.

Appendix 2 – CWOL Logo


CropWatchOnline.com

Appendix 3 – CWOL Promotional Flyer

CropWatch Online:

- Brought to you by the Riverland Wine Industry Development Council, McLaren Vale Grape, Wine and Tourism and the South Australian Research and Development Institute;
- A tool for free-access to a wide range of information for growers, technicians and others;
- To promote productivity and protect the quality and purity of grapes;
- Available at any time and via mobile phone if needed.

Four main modules offer easy access to:

- **Weekly CropWatch Messages** for disease, pest and irrigation alerts;
- **Weather forecasts and details** for your region including:
  - the Bureau of Met's satellite and radar screens and their most recent data; and
  - detailed data from local CropWatch weather stations for select regions.
- ***Disease Diagnosis*** – a system to give you confidence to correctly diagnose symptoms in your vineyard, with:
  - hundreds of pictures to help you diagnose diseases, pests, herbicide damage, nutrient deficiencies and other vineyard symptoms;
  - a 'Family of Photos' library to quickly find the best match for your symptoms;
  - a 'Looks Like' library to avoid being tricked by others that are similar; and
  - information on favourable conditions, what to look for and when.
- **Local industry news** at the click of a button featuring community noticeboards for timely information relating to field days, other events, reports and new research findings.

'For the first time growers can access weather and disease information via handheld computer or web-enabled mobile phone in the vineyard. A grower or spray contractor can now judge how far away rain is by using the rainfall radar. They can see if a Downy Mildew alert is forecast allowing them to make an instant decision, or for the first time in Australia, growers can now diagnose vineyard symptoms from their tractor seat!'

James Hook, Agronomist, Landmark, McLaren Vale

'CropWatchOnline.com builds on existing industry services acting like a 'gateway' giving growers easy links to many other information services. It provides the latest details on disease and pest control and is a practical tool to help those not used to computers.'

Shane Phillips, Tandou, Wines, Monash, SA

Thanks to the CRC (Viticulture) and GWRDC for their assistance with CropWatch Online

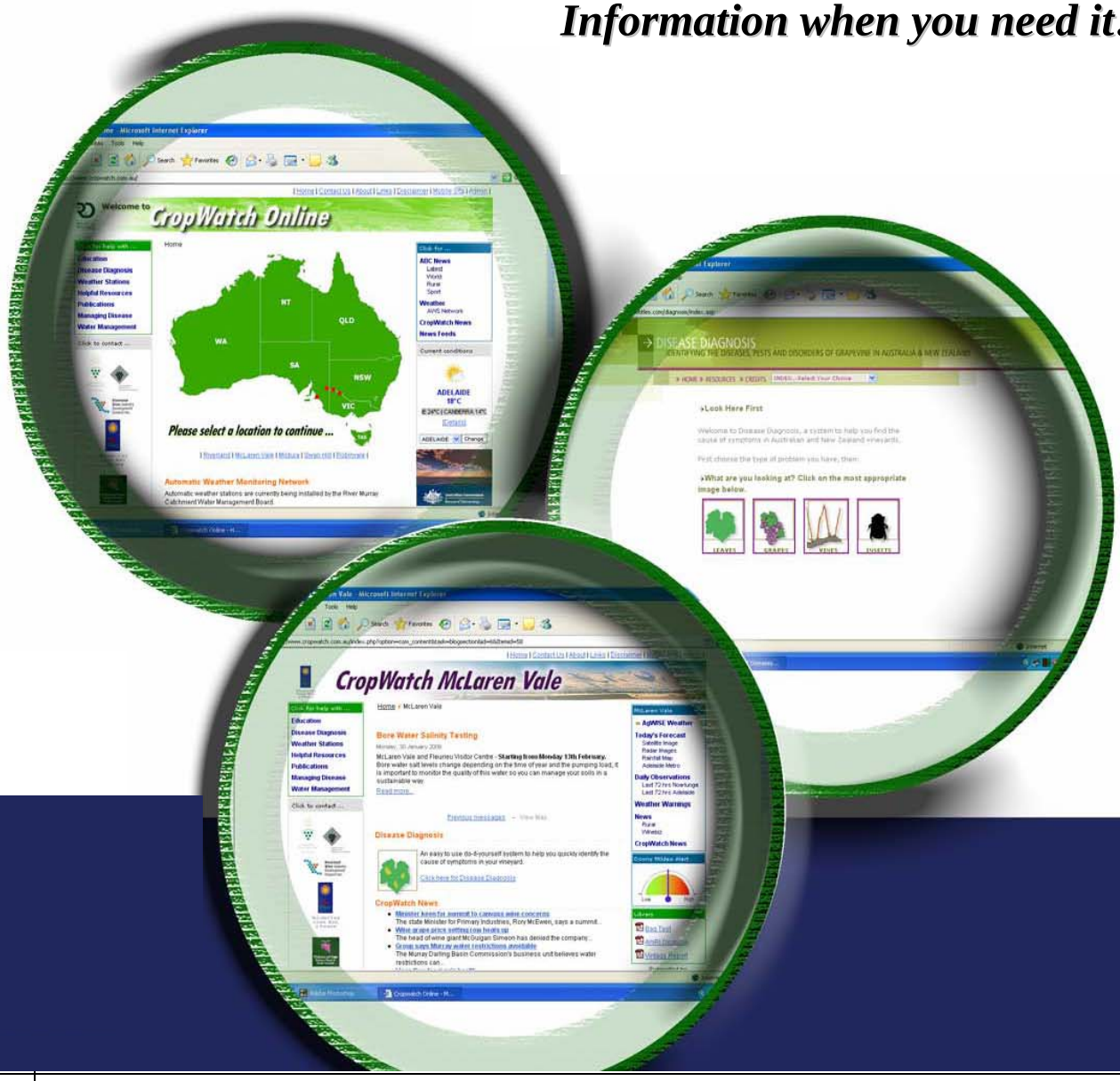
For further information contact:
info@cropwatch.com.au



Come and Try at the Field Days

First 250 get a free hat!

Information when you need it!



Appendix 4 – Example of promotional activity
Sept/Oct 2006 Australian Viticulture Article

A website for growers and researchers to improve vineyard management of grapevine downy and powdery mildew has just been developed.

CropWatchOnline.com

By Peter A Magarey[1], Justin R. Dixon[1], Cameron Hills[2], James Hook[3], Robert W Emmett[4] and Bridget Ransome[5]

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Introduction

In recent years, a number of useful services have been available in Australian viticulture to assist vineyard management operations for the control of the mildews *viz. Plasmopara viticola* (downy mildew) and *Erisyphe necator* (powdery mildew), and other diseases. In this paper we describe a new on-line service that integrates some of these services for easy access by growers, technicians and researchers.

The CropWatch Online website, supported by the Winetitles server, was established for use by growers in the Riverland, McLaren Vale and Sunraysia regions, however, growers all over Australia now have access to the system. Peter Magarey of SARDI, Tim Smythe of the Riverland Winegrape Industry Development Council and James Hook of McLaren Valey Wine Grape and Tourism are partnering in making the website useful to all Australian grapegrowers.

Existing services

Use of the following technologies is designed to assist Australian grapegrowers achieve more efficient and effective control of the mildews and other diseases in Australian viticulture. Some growers find it easier to use routine (calendar-based) spray strategies whereas it is intended to encourage use of proactive strategies that use optimum spray timing (either pre-infection or post-infection spraying, or a combination of both), the most effective fungicide products, and the most efficient spray application methods.

There are four services discussed in this paper:

1 DIAGNOSING VINEYARD SYMPTOMS

A number of aids to correct diagnosis of the mildews and other symptoms in the vineyard are available. One of these is a *Field Guide* with colour photos and simple diagrammatic keys that help growers confidently and quickly make the right diagnoses (Magarey *et al.* 1999).



2 WEATHER SERVICES

The Australian Bureau of Meteorology (BoM) provides regional weather forecasts and a variety of data from past events. Since the late 1980s, BoM has linked with the first and fifth authors to provide grapegrowers in all South Australian viticultural regions and more recently, Sunraysia (Mildura, Victoria), with forecasts of downy mildew weather events during the growing season. BoM staff assess forecast events three to five times daily for risk of the mildew. When the perceived risk exceeds 75% following consultation with the pathologist, downy mildew alerts are issued immediately and accompany weather forecasts to all media outlets. This rapid distribution allows maximum warning for the application of pre-infection (protectant) fungicides. The service also alerts growers to evaluate the need for post-infection (eradicant) fungicides if preventative sprays were not applied and the forecast event eventuates.

3 CROPWATCH SA®

A vineyard disease and pest management service known as CropWatch SA® has been operating especially for the management of downy and powdery mildew in the Riverland wine region (near Loxton, South Australia) since 1995–96, and in McLaren Vale (South Australia) since 2003–04. A network of automatic weather stations provides microclimatic data for the decision-support software, AusVit™, to determine the risk of downy mildew primary and secondary infection events and calculates date of oilspot appearance. With vineyard monitoring data to assist, the predictions are

reviewed and interpreted to develop specific management options for both mildews, and for bunch rots and pests such as mites and light brown apple moth. CropWatch is sponsored and managed locally by the respective regional grape-industry bodies. In an industry-funded service for growers and vineyard managers, a one-to-two-page bulletin is faxed or emailed weekly (or more often) through the growing season. A similar service, Horticulture Hotline®, has been provided by Department of Primary Industries in Sunraysia since 1988.

4 GRAPE INDUSTRY INFORMATION SERVICES

For most viticultural regions of Australia, a rapidly broadening array of industry-based newsletters (printed and email versions) and similar information services (including communal noticeboards), provide a diversity of research and development findings, news and other information to growers. Though the delivery (on a daily, weekly or monthly basis) and the uptake of these and other services is a matter of grower and/or industry choice, few of these services are available online.

CropWatchOnline.com is a website that provides disease management information on the mildews and other diseases and pests of viticulture and incorporates the above services. With an emphasis on the timely control of the mildew diseases, the site offers users assistance in swift and accurate diagnosis, advice and options on the type and timeliness of disease management strategies.

It also provides information on the selection and application of fungicides, and offers other management tools, all of which are needed for efficient and effective outcomes.

There are four main modules within CropWatch Online:

1 DISEASE DIAGNOSIS

The contents of the Field Guide (Magarey *et al.* 1999) have been formatted to provide users with rapid electronic access to a web-based tool that allows users to successfully diagnose vineyard symptoms. (See accompanying paper on Disease Diagnosis in these proceedings.)

2 WEATHER SERVICES

Targeted links to BoM present regionally formatted forecasts and tables of useful weather data. The forecasts are focussed for relevance to the region which the user nominates, to provide optimum information for managing downy mildew. Where available, data from local weather station networks are also accessible.

3 CROPWATCH SA®

Management advice from the CropWatch service (as above) is provided via the website to complement the delivery system previously available via the weekly information 'push' system e.g. fax or email. The website provides current messages and past records of CropWatch SA® and Horticulture Hotline® in a regionally specific format via an information 'pull' system that is available at any time.

4 LOCAL INDUSTRY NOTICEBOARDS

Bulletin boards tailored by local industry groups, present news and information targeted to growers in their region e.g. advising of coming grower meetings and field days.

In addition, CropWatch Online provides e-links to a number of viticulturally useful websites for sources of other information. CropWatch Online gives users swift access to and return from the external sites – it functions like a central railway station terminus with (free) delivery and return to external locations at will.

The website provides information and resources of relevance to Australian and New Zealand users but has facilities that may be beneficial to others internationally.

CropWatch Online has been formatted for access from standard computers and from modern mobile phones to allow users to access the resources within the site from locations other than homes and offices.

Discussion CropWatch Online is an e-tool for cheap and rapid flexibility in delivering the latest vineyard information with special reference to users seeking disease management information for the mildew diseases of grapes. Each of its four main modules is designed to encourage growers and others, though perhaps unfamiliar with the web, to have confidence in making better disease management decisions that are biologically sound and economically productive.

Estimated costs of disease management are a guide to the economic benefit of this technology. For instance, using values in AUD$ from 2004, a routine spray schedule will cost $456/ha/year (where Cost/ha = Cost of chemicals + Cost of application at $53/ha). Similarly, a strategic spray schedule encouraged through use of CropWatch services will cost $259/ha/year, a saving of around $197/ha/year.

Thus, total savings in costs of disease controls alone for the Riverland-Sunraysia districts (at a 30% adoption rate) would be near AUD$3.6m/year. More effective disease control and, as a result, reduced crop loss is an additional gain.

The website is 'free to air' and can be accessed at www.cropwatchonline.com

Acknowledgement

For their assistance with the initial establishment of the concept we thank the late Don Stephenson of the Riverland Winegrape Industry Development Council, Ashley Lipman from Rural Solutions South Australia at Loxton, the Grape and Wine Research and Development Corporation, and the Murray Pioneer and Winetitles, both of whom have generously donated web-server space for the CropWatch Online system.

Reference

Magarey, P.A., MacGregor, A.M., Wachtel, M.F. and Kelly, M.C. (1999). (Editors). The Australian and New Zealand Field Guide to Diseases, Pests and Disorders of Grapes. A companion to 'Diseases and Pests', Grape Production Series No.1., Winetitles, Adelaide, South Australia. 108 pp. ■

Appendix 5 – Example of CropWatch Messages

CropWatch SA

Riverland Wine Industry Development Council Inc.

This message was posted at 11 am **Wednesday 22nd November 2006**
and will be updated on 29th November or earlier if an adverse weather event occurs.

Vol. 12 Issue 11

Overview

The current drought and the hot dry conditions mean that water issues and not disease or pests are the main points of interest this week.

But first, some comments on powdery mildew.

Powdery Mildew

As mentioned last week, powdery is a dry weather disease. (Think '*powdery dry* mildew'.) This means that the disease can continue to spread in unsprayed vineyards in the absence of rain.

Many hours during recent days and nights have had temperatures between 20 - 28C – this means that the temperature for powdery has been ideal favouring maximum production of spores … however, the atmosphere has been extremely dry. Relative humidity scores as low as 2 - 8% have been common. As a result, the atmosphere contains very little moisture. Under these extremes even powdery struggles to produce and germinate spores and this reduces the rate of growth of the disease despite everything else being favourable.

Never-the-less, most canopies are now difficult to penetrate with spray coverage and ***it is critical to have a close look inside the canopy to search for the disease***. Look especially on the young bunches. Look also for the typical powdery grey-white spots on the leaves in shaded parts. Time spent monitoring for the disease now is time well-spent.

Since most varieties now are approaching bunch closure, ***it is important to ensure that good control of powdery continues*** – despite the dry atmosphere.

Take Care

Despite many growers spraying a number of times, CropWatch monitors still are finding powdery spreading to berries in some Verdelho, Chardonnay and Colombard vineyards in particular. This is the result of poor spray coverage - at times because groundspeeds of 7-8 km/hr were used rather than the 3-4 km/hr needed for the good coverage essential to reach the disease inside big canopies.

The critical window of susceptibility is still active – remember the berries become resistant to infection 4-5 weeks after flowering.

If you find powdery present, use a DMI spray or alternatively, sulphur at the high rate. Make sure of good coverage to allow the sprays to work well.

Early Harvest

This season continues to progress earlier than average. The expected date to harvest early varieties is in early – mid January. This means that spray with-holding periods begin to apply very soon and for some vineyards, the time for using particular powdery fungicides is coming quickly to a close. Where necessary, check with your winery rep. for your spray options.

Downy Mildew

The dry weather means that the risk of downy mildew is confined to vineyards with overhead irrigation. Even then the risk is low. Berries that are bigger than pea-size (EL 31) are resistant though the bunch stalks and the leaves remain susceptible. Generally, at present there is no need to spray for downy.

Water Issues

Water stress at this time of the season from flowering to veraison can lead to smaller berries, reduced yield and early maturity. In bad cases, berries may shrivel and fall. It is wise to plan a water budget and if necessary, assess when it is best to cut back on usage between now and the end of the season. Factors to consider are the likely rate of evaporation (check this at www.rit.org.au or www.rivermurray.sa.gov.au) and the expected rate of water usage as the season progresses. Make sure sufficient water is available close to harvest to ensure that the fruit ripens properly.

Treat more valuable patches with more care than lesser valued varieties.

Check pump, filter and plumbing systems for efficiency, water at night if you can, and maintain good control of weeds. Herbicide is cheaper than irrigation water!

For information when you need it, please click the icon below:

CropWatchOnline.com

CropWatch SA is owned and operated by RWIDC. Fruit Doctors monitor vineyards, Western Electronic Design access and process weather data and link with SARDI at Loxton who interpret and compile the messages. Contact: cropwatchonline.com for further information. CropWatch SA is an information service only. Use of the information and data contained on this service is at your sole risk. If you rely on this you are responsible for ensuring by independent verification its accuracy, currency or completeness. Any actions or decision made based on the information provided are not the responsibility of CropWatch SA. Individuals are encouraged to seek professional advice when considering decisions that could affect their business.

Vol. 4 Issue 16

CropWatch

BERRIES PEASIZE EL31

The weather this week

Wind damage- The hot and windy weather has left vineyards looking stressed and damaged all across the district. Saturday and Sunday were particular severe with wind gusts recorded at 85 km/hr in the Sellicks foothills.

The effects of this wind damage are worst in wind prone sites eg. the foothills & any exposed ridge lines.

In many vineyards set has been poor with berry shatter. High winds have increased the loss of berries.

Water stress- Many vineyards operators are trenching to stop trees using all of the water from edge rows and killing their vines.

Soil moisture readings are as dry as in late January and the vines are beginning to show signs of lignification (shoots turning yellow then hard and brown).

Water stress at this time of the season from flowering to veraison will lead to reduced yields and early maturity. Make sure that you plan ahead to ensure sufficient water is available for when the vines approach harvest.

This season is also showing up faulty irrigation systems. The dry soil means vines are heavily reliant on the irrigation applied. Irrigation issues like poor pressure, or problems with blocked drippers are having a big effect on the growth of vines. Any vines or rows that have missed out on water are showing water stress symptoms.

Weed control – Any weeds use excess water which is vital to ripening your crop this season.



Above: Chardonnay is at Berries Peasize EL 31 in this Blewitt Springs block. As a rough rule Willunga blocks are more advanced with bunches closing.

Below: The early season with an early expected date to harvest means that spray with-holding periods begin to apply very soon.

Common Products	With-holding no later than…
Switch	Peasize (EL 31)
Avatar	Peasize (EL 31)
Proclaim, Success-2	Peasize (EL 31)
Flint, Cabrio	Peasize (EL 31)
Carbendazim	60 days before harvest.
Topas 100 EC	60 days before harvest.

This message from McLaren Vale CropWatch SA was compiled on Thursday, November 30th 2006 and will be updated on the 7th unless an adverse weather event occurs.

This report is brought to you by

www.cropwatchonline.com

CropWatch SA McLaren Vale is a service provided by McLaren Vale Grape Wine & Tourism. Landmark provide vineyard monitoring data, SARDI at Loxton and Landmark at interpret the weather data & compile the messages. Information is general in nature. Always seek professional advice specific to your vineyard.
Contact: cropwatch@mclarenvale.info All photos (c) James Hook, Peter Magarey & Richard McGeachy unless noted.

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