

COOPERATIVE  
RESEARCH CENTRE  
for  
VITICULTURE

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**Disclaimer**

The information contained in this newsletter is a guide only. It is not intended to be comprehensive, nor does it constitute advice. The Cooperative Research Centre for Viticulture accepts no responsibility for the consequences of the use of this information. You should seek expert advice in order to determine whether application of any of the information provided in this guide would be useful in your circumstances.



Growers sharing information with other growers

## Influence of Rootstock on Bunch Rot

by John Whiting, Senior Viticulturist, Department of Natural Resources and Environment, Tatura, Victoria

During the 2002 harvest of a rootstock trial in the Ovens Valley of Victoria, some bunch rot was encountered. No testing was conducted to identify the organisms involved, but the symptoms were consistent with the presence of *Botrytis cinerea*. The vineyard block was spur pruned Chardonnay I10V5 grown on a single wire, Vertical Shoot Positioned trellis.

The trial design comprised eight rootstock treatments, each with three vines per plot, replicated seven times in a randomised complete block design. During harvest, pickers were asked to set aside bunches with more than five berries showing rot. These were counted separately, but included in the weight of fruit from each vine, and then discarded.

The incidence of bunch rot was expressed as the proportion of bunches with rot out of the total number of bunches per vine. The severity of infection (amount of rot per bunch) was not assessed. The rootstocks 161-49 and 5BB Kober had significantly more bunch rot than the other rootstocks, except 5C Teleki (Table 1).

A host of issues have been associated with bunch rots, eg. bunch architecture, nitrogen status, air circulation, bunch damage, etc..



Photo: Rootstock trial site in the Ovens Valley  
Source: John Whiting, 2002

Table 1. % Incidence of Bunch Rot in Chardonnay , on Eight Rootstocks.

Rootstock	% incidence of bunch rot
161-49	4.6 a <sup>1</sup>
5BB Kober	3.7 a
5C Teleki	2.0 ab
Ramsey	0.7 b
Riparia Gloire	0.7 b
110 Richter	0.6 b
101-14	0.5 b
Ungrafted	0.5 b
LSD (P<0.05)	2.7

<sup>1</sup>Values followed by the same letter do not differ significantly (Duncans Multiple Range test)

Article cont'd on page 2

## Influence of Rootstock on Bunch Rot

by John Whiting, Senior Viticulturist, Department of Natural Resources and Environment, Tatura, Victoria

Cont'd from page 1

Due to a lack of resources we did not further investigate the reasons why some rootstocks had greater levels of rot. However, there were significant correlations between % bunch rot and yield ( $P < 0.05$ ), and % bunch rot and number of berries per bunch ( $P < 0.01$ ). Also, there were observable differences in shoot growth between rootstock treatments, with

5BB Kober and 161-49 having more growth than 101-14, Riparia Gloire and 110 Richter. However, no measurements were made of growth so any association between % bunch rot and growth could not be substantiated.

### Summary

In this trial, there were measurable differences in incidence of bunch rot

between rootstocks.

Increased bunch rot seemed to be more closely associated with high berry number per bunch, perhaps through the bunches being more compact. Growers need to be aware that selection of rootstocks may impact on the incidence of bunch rot, but further work is needed to determine the extent and cause of the problem.

## VERA – Viticare Environmental Risk Assessment, An opportunity to participate in a trial,

By David Baker, EMS Officer, Cooperative Research Centre for Viticulture (CRCV). ADELAIDE

The Viticare Environmental Risk Assessment tool– or VERA – is the tool developed by the CRCV as a starting point for growers to begin building environmental management into their overall vineyard management planning.

VERA will be provided to growers as the main component of a 4-5 hour interactive workshop, designed to enable growers to understand structured environmental management and use the tool most effectively.

The outcome of the workshop for growers is that after attending they will be

able to apply VERA to their own business and draft a simple environmental action plan for the next 12 months.

The workshop held recently in Margaret River (see last issue, September 2002, Viticare news) was one of a series of trials in the final development stage of the VERA. For practical reasons the majority of the workshops are being conducted with regional groups, however we recognise that there are many growers with an interest in environmental management who are not necessarily linked to these groups.

To address this we are proposing to run one or

two workshops open to all growers who wish to trial VERA and contribute to its refinement via the feedback process. The workshop(s) which will be free-of-charge are tentatively planned for early – late December with the exact date and locations still to be determined.

So if you would like to participate in one of these VERA workshops or would simply like to find out more about VERA please contact **David Baker** (EMS Officer) (08) 8340 0506 or [dbaker@senet.com.au](mailto:dbaker@senet.com.au).

## This Months –On Farm Trails (OFT) News

### New On Farm Trials staff member

by Jo Deretic,  
Regional Coordinator (Port Phillip, Victoria),  
Department of Natural Resources and Environment (NRE),  
Knoxfield

Jo Deretic has recently moved to Melbourne to take on the position as the Regional Coordinator for On Farm Trials for the Port Phillip Region. Jo has an Honours degree in Biological science where she majored in Zoology and Botany and researched the taxonomy and hybridisation of white and brown stringybarks for her honours project. After her

honours year she was employed by NRE-Rutherglen where she worked with the grapevine pest phylloxera. This position involved undertaking rootstock screening, pest risk analysis and researching quarantine issues as well as running National Phylloxera Management Workshops on an annual basis. Jo's move to NRE –Knoxfield involves

working with the CRCV-funded On Farm Trials project (Viticare program) within the Port Phillip region as well as the GWRDC – funded project "Ensuring optimal wine quality through management strategies for *Botrytis cinerea*". Jo is looking forward to collaborating with growers about their trials within the Port Phillip region.

## On Farm Trials: A grower's personal experience

By Ryan Johnstone and Jack Church:  
"Warramate" – Yarra Valley, Victoria

"We became involved with the Participatory On Farm Trials project in 2001 following the planting of more rootlings in 2000 using dry land farming as has been the case with the original planting established in 1970 under black plastic".

"The objective was to establish the best conditions for the new planting in our area without irrigation. Soil moisture conservation is therefore a major objective for us, as is weed control. A thick bed of straw had been applied to the older vines a number of years ago for this purpose and has proved to be effective".

"We have set up a small-scale trial to compare under-vine mulching methods, composted mulch, straw and a clean herbicide strip, in our new Cabernet Sauvignon. Soil moisture was monitored using gypsum blocks and weed counts and coverage was recorded throughout the season. Although the 2001/2002 season was cooler, with regular rain, some significant results were obtained".

"It was shown that both of the mulches (straw and compost) helped to retain the soil moisture better than the bare strips. There was no significant difference

between the two mulch types here. The clean strip had a higher number of weeds and greater percentage of cover than the two mulches. The straw showed greater control of weeds than the composted mulch. Due to the high cost of the mulch and its application we are also interested in their long term effectiveness and durability".

"As no two seasons are identical, the trial will continue for a number of years to collect more data and give us better understanding of how we could benefit from the use of mulches in our vineyard".

## More On Farm Trials News

### Participants confirm On Farm Trials ( a useful tool for better management )

by Natalie Laukart, National Coordinator for On Farm Trials, Department of Natural Resources and Environment (NRE), Agriculture Victoria

The “Participatory On Farm Trials” (OFT) project team has been conducting evaluations to benchmark progress. This process has involved participants filling out evaluation forms that not only directly relate to their trials but which also provide feedback on the services and tools provided. The following text gives a quick overview of the type of trials and measurements that were carried out over the past two years.

Five different types of trials were conducted as part of OFT:

- Mulch trials
- Irrigation trials
- Canopy management trials
- Pest and disease trials
- Nutrient trials

Measurements that participants made throughout the growing seasons include:

- soil moisture
- weed counts
- shoot length
- quality parameters
- total yield
- soil and petiole nutrient analysis
- disease levels
- pest levels

Participants acquired vari-

ous skills and new knowledge while participating in their trials. The skills and knowledge learnt were generally dependent of the type of trial that was conducted. Reports of skills learnt included:

“Learnt about setting up trials, understanding sampling and measurement process; Initially needed assistance in set-up, but taking measurements was easy to grasp” – Gary Harbor, McIvor Estate, Heathcote (Vic)

“Learnt sampling techniques, water measurements and canopy evaluation skills”– Greg Williams, McWilliams Wines Riverina (NSW)

“Learnt how to monitor and judge severity as well as better identification of the two fungi involved in causing bunch rots” – Graham Doran, McWilliams Wines, Hunter Valley (NSW)

OFT was considered by all respondents as a useful tool to assist growers to make better management decisions. A number of lessons were learnt by the participants and also by the project team facilitators. Firstly, OFT required a lot of time and commitment by the participants. The facilitators, who assist

participants determine the time commitment required for the trial throughout the season, attempt to relieve this issue. One participant commented that “A side-benefit to involvement in OFT is contact with many experts in the industry and a greater knowledge network”.

**The main lesson learnt here was that the facilitator should assist in determining the time required for taking measurements.**

Secondly, participants often wanted to take too many measurements. This enthusiasm could result in loss of focus on the main aim in not having enough time to take the most critical measurements. A clear and simple aim needs to be determined at the start of the trial. Another participant commented about getting involved in OFT: ‘Definitely do it but it needs to be relevant to your needs’.

**The main lesson learnt here was to focus the measurements on the main aim of the trial.**

Thirdly, the issue of how do we deal with “off” seasons arose. Irregular weather patterns can give

results that are totally unexpected or different from one year to the next. Generally, if a trial is conducted over a number of years and with rigorous trial design and establishment, the results can be reviewed critically to determine whether a certain management practice is sustainable or not. A comment from one participant was, “Go for it! Get involved in OFT but really think about your set-up”.

**The main lesson learnt here was to trial new technologies over a number of years in order to get the most information from the trials.**

Finally, one participant summed it up well. “If your aim is to be a sustainable quality-focused operation then you need to actively investigate what is best for your situation (by using OFT)”.

For further information please contact Natalie Laukart, National Coordinator of Participatory On Farm Trials, Agriculture Victoria, Institute for Horticultural Development, Knoxfield.

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## Weed Management in Organic Viticulture

by

Chris Penfold

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### Introduction

A recent survey by Dunstone et al, (2001) showed the lack of access to herbicides was an important constraint in the conversion to organic or biodynamic viticulture. The obvious option is to use more cultivation and hand weeding. However, excessive tillage has deleterious effects on soil structure, with subsequent impacts on water infiltration and availability. Hand weeding using hoes and brush cutters is still commonly used for small populations of problem weeds. Weed management systems, which take a holistic view of vineyard floor management, are necessary to enhance the adoption of organic viticulture in Australia. This paper examines the significance of floor management in viticulture and highlights some organic weed control practices that could be followed.

### What is a Weed?

Loosely defined it may be seen as a *plant growing out of place, or a plant whose virtues have not yet been discovered*. Sindel (2000) uses the definition of *any plant which is a nuisance or which interferes with human activity* which is useful when recognizing our reaction to weeds. However, what is out of place and hence a nuisance in the broadacre context may not be within a vineyard as the

plants growing on the vineyard floor may provide a myriad of attributes not recognized in other agriculture production systems. In managing the vineyard floor, it is therefore necessary to determine what is expected of the soil in the floor, as this will impact on weed management. There are several issues in viticulture which must therefore be considered when planning floor management. These include traffic in the mid-row and consequent compaction; monoculture vs. species diversity; nematodes; yield vs. quality and aesthetics. Indirectly these factors all impact on floor and weed management practices.

### Why Grow a Cover Crop?

Vineyards are essentially an alley farming system, on very narrow row spacings. The mid-rows account for some 50 – 70% of the vineyard floor, but they do not generate any direct income. Do they contribute to the productivity of the vine, or are they instead just an area of soil which needs to be managed quite independently and from which little benefit flows to the vine? Remarkably, there seems to be little knowledge on this issue. It would seem that on drip irrigated warm climate vines, where there is minimal water storage in the mid-row, the vine roots are only active around the drip zone. What happens in the mid-row is inconsequential to vine production from a soil moisture / nutrient availabil-

ity perspective, but issues such as insect habitat must also be considered. With increasing rainfall and reduced irrigation, and a greater emphasis on grape quality, it is expected that the mid-row area play a greater role in provision of water and nutrients to the vine. Compaction generated by many passes of tractors, spray units and harvesters down the same wheel tracks makes this a fairly inhospitable environment for roots to access. The role of the mid-row, even in these more favourable environments is therefore uncertain. Vineyard managers therefore need to decide which of the following roles they expect the cover crop to fulfil prior to planting, as this will determine the species selection which ultimately will impact on the weed control measures necessary in the vineyard.

- Ground cover / weed suppression
- Biodiversity
- N fixation
- Biofumigation
- Aesthetics
- Water use – uptake or suppression
- Perennial or annual

Providing ground cover and gaining good weed control through plant competition is readily achieved using cereals or brassicas such as fodder radish. Selection of the species and variety best suited to the environment will deliver a cover crop that most weeds will find difficult to intrude upon, and in a

good season produce a large amount of biomass that can be returned to the soil. So long as cultivation is restricted to the absolute minimum, and the C:N ratio is maintained, such cover crops will improve the soil organic matter levels over time and, via improved soil health, lead to optimised yields and grape quality.

Leguminous cover crops such as peas and beans are popular in some areas. Although they provide additional nitrogen to the soil, it is questionable if the vines access that additional nutrient. Legumes are poor competitors with weeds, so if weeds are a concern, it may be more economical to grow cereals or brassicas in the mid-row and provide the nitrogen through broadcast compost. If nitrogen is deficient in the vines, then compost applied to the undervine area will usually redress the problem. In areas where phylloxera is a problem, it is possible that this same compost application may indirectly inhibit the insect to the extent that yield reduction is not so significant.

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## Weed Management in Organic Viticulture

by  
Chris Penfold

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### Root knot nematode

(*Meloidogyne incognita*) can be a problem in some young vineyards. Biofumigation using brassica crops has been shown to significantly reduce the population and damage caused (McLeod and Da Silva, 1994). Anecdotal evidence from the Riverland / Sunraysia suggests that one of the most prevalent endemic species and recognised as a weed (long fruited turnip, *Brassica tournefortii*) is also an effective bio-fumigant. This plant, which is well adapted to this environment could be managed to provide an excellent cover crop, and to rebound yearly from its substantial seed bank.

Aesthetics is an issue in viticulture that can sometimes overwhelm pragmatic management. As discussed earlier, many plants which are considered weeds in other environments are not a problem in the vineyard, and will often provide the biodiversity necessary to either detract light brown apple moth from the vines, or generate a predator population that will contain the moths population. The time, effort and money consumed in producing a weed free vineyard may be unwarranted, and in the case of using tillage for weed control, unsustainable. If the disdain of the conventionally minded neighbours can be accommodated then taking a minimalist approach to floor management which does not compromise the fundamentals of yield, quality or comfort is now the pre-

ferred approach to weed management. An excellent example of this is the encouragement of soursob (*Oxalis pes-caprae*) as either a cover on the vine row or the complete floor. It competes strongly with weeds, opens up the soil structure and does not compete with the vines because it senesces in spring.

Some growers are now questioning the cover crop concept and looking for alternative perennial species that will reduce costs, reduce soil water use and simultaneously suppress weeds. Some of the native grasses look promising at achieving these criteria, and other prostrate broadleaf plants are now being investigated to determine their potential in this role.

### Intervention

There will be times when even the most accommodating growers will find it necessary to restrict or terminate the growth over weeds or cover crops, and there are several approaches to take. Cultivation is the tried and tested method most commonly used in organic systems. In the undervine area, implements such as the silly plough / dodger are still common, but technologically they have been superseded by expensive French, German and Italian machines. There is concern the action of the machine will be detrimental to soil structure, but no studies are known that have investigated this aspect of their impact on soils. A very simple and comparatively cheap ma-

chine loaned to the author by its Californian manufacturer, has been trialed by several growers that have been very happy with its performance, simplicity and robustness. The action of this machine on the soil would suggest it is also kinder to the soil structure.

In the mid-row area, the main justifiable reason for cultivation is frost prevention. Excessive cultivation of the mid-row is still frequently observed, and usually performed to generate a weed free mid-row. Unfortunately all that organic matter generated in the cover crop and meant for the soil is oxidised and transformed into CO<sub>2</sub>, leading to poor structure, poor infiltration of water and subsequent detrimental impacts on grape quality. Our soils are not very resilient to mechanical disturbance, with structural degradation occurring readily. Minimising cultivation to improve soil health is essential in attaining sustainability in viticultural floor management

Thermal weeding involves using a heat source to raise the cell temperature of the weeds above approximately 65°C. The fuel source is LPG gas or diesel. Recent advances in thermal technology use steam quenching to transfer the raw heat into steam, thereby alleviating the likelihood of starting fires and increasing the thermal efficiency of the system. Thermal control works similar to a knockdown herbicide, so some plants will regrow, and it will be ineffective on the

rhizotomous plants such as couch. Fuel use is about 26 kg of gas per hour for a strip about 400 mm wide. The great benefit of the system is there is no soil or root disturbance, and the desiccated plant material is left as mulch on the plant surface.

Weed management via smothering is becoming increasingly popular. Establishing vineyards without resorting to herbicides is usually a difficult and labour intensive task. Some growers have used jute matting to provide two to three years of weed control, but as with other smothering or mulching practices, it is expensive at about \$2,500 /ha. In established vineyards, cereal straw works very well at inhibiting weed growth, while composts and organic mulches are also very effective if applied thickly enough. A depth of 20 cm and 10 cm respectively is required for these products to be effective. Yield improvement through the application of composted green organic material or grape marc has been significant in some regions, with gains up to 1.7 t/ha recorded in 2001/02 which easily paid for the mulch product and application in one year.

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## Weed Management in Organic Viticulture

by  
Chris Penfold

Cont'd from page 6

The obvious option to cultivation is mowing, for which there are many machines now available. Alternatively, the use of a ribbed roller is proposed for termination of cover crops. The equipment can be manufactured quite cheaply, maintenance is minimal, and the integrity of the cover is maintained, leading to slower rates of breakdown.

The grazing of vineyards for weed control has much unrealised potential.

Unfortunately, many vignerons see themselves as just that and not graziers, so they are unwilling to include live-stock in the system. The vineyard offers a large area to grow forage for a variety of livestock, and with suitable fencing sheep, goats, geese, turkeys, chooks and other animals can integrate into the system.

### Conclusion

Weed management in vine-

yards may initially seem daunting when herbicides are not allowed. To minimise the anxiety, a shift in thinking about what is a weed is often necessary to determine whether the plant in question is causing economic damage to the vineyard. If so, by thinking outside the square, discovering the plants biology then determining how it can be managed rather than eliminated, then the paradigm changes and the weed be-

comes just another plant. The virtues of some plants may be hidden, but through astute management their negative impacts may be reduced and the beneficial plants will predominate. Taking the holistic approach to weeds will be simpler, more cost effective and less stressful than elimination of all unwanted plants.

**Further Enquiries? contact,  
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## Agrochemical Update on Phomopsis Control

By Sally Bell, Viticulturist

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**Phone: 08 8303 6600**

**[www.awri.com.au](http://www.awri.com.au)**

SHIRLAN fungicide has been granted registration by the National Registration Authority for the pre-budburst suppression of phomopsis cane and leaf blight in grape vines.

Shirlan is a Crop Care product, containing the active constituent fluazinam. Fluazinam is a Group Y (multi-site:pyradinamine) fungicide.

Restriction on use

for export grapes: Dormant spray only.

Note: 32 day re-entry period "Persons re-entering treated vines for up to 32 days following application and who will be handling treated vines must wear cotton overalls buttoned to the neck and wrist, a washable hat and elbow length PVC gloves. Clothing must be laundered after each day's use."

CROP CARE CAPTAN WG fungicide has been granted registration by the National Registration Authority for the control of phomopsis cane and leaf blight in grape vines.

Crop Care Captan WG contains the active constituent captan which is a Group Y (multi-site:cyclic imide) fungicide.

Restriction on use for export grapes: Use no later than 30 days before harvest.

**The above information is provided to inform the wine industry of changes to agrochemical product registration and availability, and should not be interpreted as an endorsement.**

## 12th Australian Wine Industry Technical Conference

By Rae Blair, Communications and Publicity Manager

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**Phone: 08 8303 6600**

**[www.awri.com.au](http://www.awri.com.au)**

The Twelfth Australian Wine Industry Technical Conference will be held in Melbourne, Australia, 24-28th July 2004. For more information see: <http://www.awitc.com.au>

## Australian Wines to Undergo Health Check

Submitted by Rae Blair, Communications and Publicity Manager,  
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In a world first, experts from the Australian wine industry and doctors at Melbourne's Alfred hospital and Monash University supported by a grant from the Grape and Wine Research and Development Corporation are joining forces to investigate whether wines can cause allergies.

The study will involve both clinical and laboratory trials, and will be used by the wine industry in making decisions regarding the labelling of Australian wines.

New regulations to be introduced soon in Australia and eventually in Europe will require mandatory declaration on labels of wines, when substances that might provoke allergic reactions have been used in production.

The Australian Wine Research Institute Information Manager Creina Stockley said the Australian wine industry had chosen to carry out the study so it could fully understand the implications of the regulations, and because it had a duty of care to consumers to ensure wines were completely safe.

Ms Stockley said a number of naturally occurring substances are traditionally used in the production of wines around the world, including in Australia. These substances include egg, milk

and fish proteins..

"The substances are added to wine during production to remove any excess of polyphenolic compounds and tannins (the fining process). We know that virtually none of the substances are left in the wine. However we need to be sure that if there are any traces left, they will not have a negative effect for consumers.

"We believe it is better to take a proactive approach by fully investigating this issue, rather than simply reacting to changes in regulations."

Alfred / Monash Allergy Professor Robyn O'Hehir said while she did not believe these additives caused any allergies it was important to investigate properly so consumers could be certain of the effects of drinking wines.

"The good news is that in my 20 years as a Consultant Allergist I have never seen a patient with a true allergy to wine.

"However we know there are many people who have allergies to foods like peanuts, eggs or shellfish and we feel its important to research properly so we can be sure there are no adverse effects to drinking wines."

Prof. O'Hehir said the study would include ex-

tremely sensitive laboratory and clinical tests to see whether traces of milk, egg, nut or fish products in wines could affect consumers.

The laboratory component will examine the chemical make-up of 100 different Australian wines to determine whether they contain traces of allergy inducing substances, and if so, exactly how much.

The clinical component will involve testing whether participants have allergic reactions to various wines, both through skin tests and through drinking the wines. Participants will include a group of patients who are known to be highly allergic to various substances as well as a group who do not have allergies.

"This is a very good example of an industry behaving responsibly and using independent hospital and university resources to make sure there are no allergy problems for those consumers drinking its products," Prof. O'Hehir said.

Ms Stockley said the Australian wine industry was one of the most tightly regulated in the world in terms of the types and quantities of processing aids and additives used in winemaking.

"Our industry fol-

lows world's best practice in wine production, and we are leading the world in research into this issue."

**Wine Production – What is fining?**  
Fining is a traditional part of wine production where some tannins, for example, are removed from wine by adding a small amount of protein, such as egg white, to the wine.

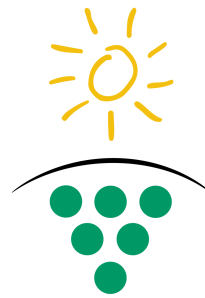
These proteins bind with tannins making them sink to the bottom of the tank storage vessel and settle where they can be easily removed. When following best practice, vVirtually none of the protein is left in the wine.

A number of naturally occurring proteins have traditionally been used as fining agents in the production of wines and are still used today. These proteins include egg, milk and fish substances.

Fining generally takes place in the latter stages of production winemaking.

.....accelerating the uptake of new technologies

For further information,  
contact the newsletter editor,  
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## Partial Rootzone Drying (PRD) – What is happening in the Australian wine industry?

By Gayle Grieger, Industry Development Leader. Cooperative Centre for Viticulture (CRCV)

Partial Rootzone Drying (PRD) has the potential to revolutionise water management in Australian vineyards. To achieve this there is still a long way to go with not only answering some of the basic and fundamental questions about how and why PRD works, but also understanding the implementation of PRD in different vineyard situations. Currently the Cooperative Research Centre for Viticulture (CRCV) is funding a number of PRD related research projects and the development of an extension strategy for the technology.

Recently a one-day workshop was held to determine the current state

of knowledge regarding PRD and determine the most pressing research gaps still to be filled. As part of that day I delivered a presentation on the current uptake of the technology in the industry. An integral part of understanding how PRD is implemented in the vineyard is the gathering of case study information about all sites where PRD is and has been tried.

Your help is needed to make this exercise truly meaningful. Do you know of any PRD trials in your area? The CRCV would be grateful for this information. Vineyards currently trialing PRD may also be provided with support

in the gathering of data as part of the on-going research program. The case studies will be collated and used to develop a “how to” guide or fact sheet for the wine industry on implementing PRD, taking into consideration site and variety characteristics.

Please help and pass along the contact details of anyone who has or is trying PRD to Gayle Grieger, ph 08 85686403 or email grieger.gayle@saugov.sa.gov.au. Future newsletter will contain further information obtained from the case studies about putting PRD into practice.

## What is Viticare™?

By Gerard Hogan, 08 8303 9432, Glen Osmond  
and Gayle Grieger, 08 8568 6403, Nurioopta  
Industry Development Leaders,  
Cooperative Research Centre for Viticulture (CRCV)

The Cooperative Research Centre for Viticulture (CRCV) research and education programs and other programs are based on national research priorities.

Viticare™ is a national communication mechanism built on new and existing viticultural groups, and Viticare™ promotes the program outputs Australia wide.

Viticare™ communicates these outputs, captures experiences and broadcasts them, identifies impediments in their application and informs providers like the researchers.

Viticare™ aims to accelerate application and uptake of these outputs in an environmentally sustainable manner, to enhance grape quality and global competi-

tiveness of the Australian Viticultural industry.

The Viticare™ team provide a number of services to support the wine industry in the production of quality wine grapes and grape products.