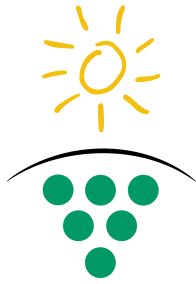
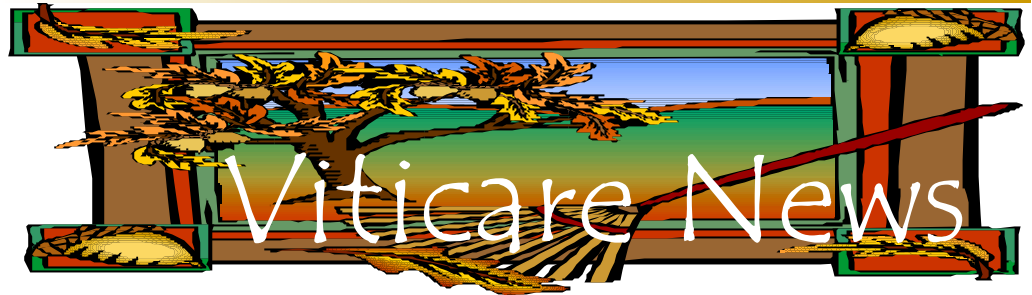


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COOPERATIVE
RESEARCH CENTRE
for
VITICULTURE



Growers sharing information with other growers

Chemicals not warranted to control *Phomopsis* type 1 (now known as *Diaporthe*)

By Belinda Rawnsley, South Australian Research and Development Institute (SARDI), Waite Campus, Adelaide

Inside this issue:

Phomopsis/Diaporthe 1 & 2
changes

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now New Position

*Belinda Rawnsley has been working on *Phomopsis* and *Diaporthe* for several years and has found some interesting results from this study.*

Read the article (right) to find out more.

Phomopsis cane and leaf spot of grapevine is attributed to two types of fungi – *Phomopsis* type 1 and type 2.

It has been well documented that *Phomopsis* type 2 causes characteristic symptoms of the disease, including leaf spots and lesions on shoots, with yield loss resulting from cracking and weakening of canes.

However it was unclear if type 1 was pathogenic on grapevines. It was suggested that type 1 caused failure of buds to burst, delayed bud-burst and stunting of shoots. Because of this uncertainty, many growers have used fungicides to control *Phomopsis* cane and leaf spot, regardless of the type of *Phomopsis*.

A three-year research project, funded by the Grape and Wine Research and Development Corporation (GWRDC), was undertaken to assess if

type 1 was a pathogen on grapevine and clarify its role in failure of buds to burst.

*The study showed that *Phomopsis* type 1 is not pathogenic on grapevine and does not cause failure of buds to burst or bud loss.*

For this reason, it is recommended that the terms *Phomopsis* type 1 and type 2 be replaced with different common names to distinguish the two fungi.

Phomopsis type 1 is now referred to as **Diaporthe** (pronounced dye-a-por-thay), *Phomopsis* type 2 is simply **Phomopsis** (the casual agent of *Phomopsis* cane and leaf spo.

Phomopsis (previously *Phomopsis* type 2) causes symptoms on green shoots and leaves, whereas *Diaporthe* does not.

Infection by *Phomopsis* is evident as brown/black oblong lesions on the lower internodes of green shoots. Brown lesions may also be evident on rachis and leaf petioles. As the cane hardens, the lesions elongate and crack (Photographs 1 & 2 overleaf).

Leaf spots caused by *Phomopsis* appear as a brown necrotic spot (approximately 1 mm in diameter) surrounded by a yellow halo (Photographs 3 & 4 overleaf).

These spots generally do not increase in size but become numerous on the leaf. Dead spots may drop out leaving holes in the leaf. Severely infected leaves may yellow, die and drop early.

Continued Overleaf

Chemicals not warranted to control *Phomopsis* type 1 (now known as *Diaporthe*)

Cont'd from previous page



Photographs 1 & 2: Longitudinal lesions caused by *Phomopsis* on lower internodes of grapevine shoots.

Bleaching can occur on canes infected by *Phomopsis*, but bleaching can also be caused by other factors, such as hail damage, weather damage, *Botrytis*, other pycnidium-producing fungi and *Diaporthe*.

This bleaching alone cannot

Yield loss caused by *Phomopsis* infection can be attributed to weakened cane, girdled shoots and poor berry set.

Because *Diaporthe* does not cause injury to vines, the application of fungicides for the control of *Diaporthe*

developing shoots.

The chemical acts by killing fungal spores but will not kill the fungus once it has infected green shoots. A spray programme commencing at 50% budburst should provide satisfactory control unless wet, warm conditions persist, in which case further sprays may



Photographs 3 & 4: Leaf spots caused by *Phomopsis*

be used as a reliable indicator of *Phomopsis* infection.

Although berry rot caused by *Phomopsis* can be a problem in other countries, berry rot is very rare in Australia. Conditions generally are not favourable for growth of the fungi in summer, but berry rot could occur if conditions were wet and humid.

Diaporthe is not warranted.

Chemical control is necessary to control Phomopsis only.

One of the most effective control methods is the use of the protectant fungicide, Delanâ (dithianon). Delanâ should be applied to canes at 50% bud burst and again 10 to 14 days later to prevent spores infecting newly

be required.

In summary, *Phomopsis* causes the disease and *Diaporthe* does not cause injury to vines. *Phomopsis* can be distinguished from *Diaporthe* in that it produces leaf spots and lesions on shoots, so monitoring is very important. *Diaporthe* does not cause symptoms on green shoots and chemical spraying is not necessary.

CRCV researchers contribute latest CRCV information in your newsletter.

Last month, *Eutypa*.

This month, *Phomopsis* & *Diaporthe*.

If you found this useful, we would like to know!

call Gerard on 08 8303 9432

or Gayle on 08 8568 6403

Phomopsis/*Diaporthe* Enquiries?

Call Belinda in Adelaide on,

08 8303 9400 or email,

rawnsley.belinda@saugov.sa.gov.au

RUST MITE SEMINAR

Including Weevil and Biological Control for Light Brown Apple Moth

Speaker;

DR PAUL HORNE

29TH August 2002

1PM – 4PM (afternoon tea inclusive)

Dr Paul Horne is 1 of the 3 supervisors used by **Martina Bernard** for her continuing work on Rust Mite damage on grapevines. Martina is unable to come to South Australia herself due to on-going trial work in Victoria till late September, so Dr Paul Horne is kindly coming over to SA and presenting her work here, at Langhorne Creek. He will also discuss problems people may have with Weevils (Elephant, Garden etc) and biological control for Light Brown Apple Moth.

RSVP; We would like to have some idea of numbers attending. If you could phone either Eva Pargeter on (08) 85373337 or Fiona Wood on 0407 374 337 by the 26th of August 2002 it would be greatly appreciated.

COST; For people attending who are not members of the Langhorne Creek Grapegrowers Association there will be a \$10.00 charge per person.

(information kindly supplied by: Mary Retalluck, Project Leader, Grapevine Nutrition, Research to Practice-Viticulture)

Port Phillip On-Farm Trials Workshop, Victoria

By Natalie Laukart, Natural Resources and Environment (NRE), Agriculture Victoria, Institute for Horticultural Development, Knoxfield

On July 5th, the On-Farm Trials team in collaboration with Grapecheque organised a seminar in the Yarra Valley.

It included a workshop that involved the participants of On-Farm Trials who had completed their first or second year of trials. The results of some of these trials will be reported in the October issue of the Viticare Newsletter.

In the afternoon, about 15 local growers were present for the seminar where I spoke about the process of On-Farm Trials and the involvement of each participant.

Ryan Johnstone, the vineyard manager from Waramate Vineyards, spoke about his trial during season 2001 - 2002. He is trialing two mulches, straw and compost, against a bare ground (herbicide) treatment.

His 'main message' was

about the virtues of doing your own trial and learning more about the intricate characteristics of your vineyard.

He is extremely enthusiastic about continuing his trial for a number of years in order to confirm continued improvement in soil, weed and water management.

Dr Kevin Wilkinson, an expert in mulch and compost research, gave an interesting and comprehensive overview of when and when not to mulch. He has 7 years experience in this research area and has written a number of papers.

The latest one appeared in Australian Viticulture 6 (4) pages 71-73 and is entitled 'First mulching rule – Think before you do it'.

The main points that he raises are:

Composts and mulches can provide much needed organic matter to soils; Composts can be used for nutritional effects; Care has to be taken to ensure that nutrient overloading does not occur; Use mulches and composts in conjunction with soil & plant nutrient testing; and Seek out quality assured sources of organic matter if they are brought on farm from elsewhere.

If you are interested in more information about either the On-Farm Trials project that currently run in various wine-growing regions of Victoria, South Australia and New South Wales or mulching please don't hesitate to contact,

Natalie Laukart on 03 9210 9222 (natalie.laukart@nre.vic.gov.au) or Kevin (kevin.wilkinson@nre.vic.gov.au).

On Farm Trials Enquiries?

Call Natalie Laukart on;
03 9210 9222, or email;
natalie.laukart@nre.vic.gov.au

Natalie and her co-workers, would like to acknowledge the use of facilities of Northern Melbourne Institute of TAFE at the Yarra Valley Racecourse for the Port Phillip On Farm Trials workshop and seminar recently held in Victoria.

NSW On Farm Trial News from the Riverina.

by Sylvie Sicard & Darren Morrow, NSW Agriculture

Participatory On Farm Trials (OFT) for sustainable viticulture manages a number of trials in the South Western Slopes and Riverina Regions of NSW.

The success of the OFT program continues to provide interested growers with tangible trial results on their own vineyard. In addition to the original trials, a number of new trials began in 2001. More trials are planned for commencement in late 2002.

Table 1 (right), illustrates the type, location, and stage of each of the trials currently underway.

Regions	# Trails	Trails	Grape Variety	Trail age (years)
Riverina	6	Botrytis spray	Semillon	2
		Frosted Vine monitoring	Shiraz	1
		Frosted vine monitoring	Cabernet Sauvignon	1
		RDI (A)	Shiraz	2
		RDI (B)	Shiraz	1
		Water Management through RDI	Shiraz	1
South West Slope	3	Sacrificial Canes	Shiraz	2
		Pest Nematode Management	Merlot	1
		Pruning	Shiraz	1

Table 1: Riverina Region Results, 2002.

Botrytis trial

At this stage results from the trial have not been conclusive. This is due to some unexpected variables that have influenced the results. However the overall Botrytis disease pressure has been low this season, similar to last season.

RDI trial Trial A.

The Shiraz vines did not respond significantly to the water stress treatment (treatment 1) in the first year of this trial. This year a new treatment (treatment 2) was added to the trial site, involving a more severe level of water stress.

Having two treatments of water stress as well as a control allowed us to compare the results of using different stress levels. Both water stress levels increased the fruit quality in the 2002 vintage.

Treatment 2 reduced the yield more than treatment 1. However treatment 1 gave a good

balance between yield reduction and grape quality.

Trial B.

Like the previous trial, the vines did not respond significantly to water stress in the first year of the trial.

Water management through Regulated Deficit Irrigation (RDI).

The aim was to improve yield while maintaining grape quality. This season the trial has not significantly increased yields, however grape quality was maintained.

Both the RDI (B) and water management through RDI trials will continue next year and beyond. This will allow us to assess the long-term effects of the treatments.

Frosted Vines Monitoring trial:

A late spring frost affected one of the RDI trial sites. The grower asked to undertake a trial to monitor the frosted Shi-



Control (Top middle) compared to RDI 1 (Bottom left) and RDI 2 (Bottom right). Source: Sylvie Sicard & Darren Morrow

raz and Cabernet Sauvignon vines. About 60% of the trial blocks were affected.

Both varieties were at different growth stages: Shiraz, close to flowering: stage 17 (E-L system) single flowers separated. Cabernet Sauvignon being less advanced in growth: stage 15 (E-L system) flowers in compact group. From the results obtained: The growth stage has an influence on the vine recovery

and capacity to produce a quality crop.

Shiraz ripening was delayed by almost a month compared to the control. Ultimately the fruit was not taken by the winery due to quality concerns related to maturity. Grapes from the frost effected Cabernet Sauvignon vines were harvested at the same time as the grapes from the non-frosted vines. The fruit was taken by the winery.

NSW On Farm Trial News from the South West Slopes Region,

by Sylvie Sicard & Darren Morrow, NSW Agriculture

NSW South West Slopes Region results from On Farm Trials.

Sacrificial Cane trial:

Treatment 1 (1 Cane retained until harvest): This treatment increased grape quality. Treatment 1 will be kept next year, as it seems promising in terms of grape quality and time efficiency. The two other sacrificial cane treatments (1 and 2 canes retained until after fruit set) won't be kept next season.

Pest Nematode Management trial (population control with biofumigants):

Commenced Autumn 2002, hence no results at this stage.

Pruning trial:

Commenced Winter 2002, hence no results at this stage.



NSW South West Slope Pruning Trials

Source: Sylvie Sicard and Darren Morrow

What's next?

Almost all of the trials will continue next season.

RDI (A) trial will not continue next season. The grower is happy with the results and information gained over the two years, and will start a new trial on nutrient spray.

The frosted vines might be monitored this coming season, depending on the spring growth.

A new region, Tumbarumba has joined the On Farm Trials project and will start regional trials this coming season.

The Participatory On Farm Trials for sustainable viticulture team, for Riverina, South West Slopes and Tumbarumba, wish to thank the growers involved for their cooperation and support. We look forward to another successful growing season in 2002-2003.

Some important Viticare™ news!

by Gerard Hogan, Industry Development Leader, Cooperative Research Centre for Viticulture

Need Hard Copies?

Do you require the Viticare™ News in hard copy format?

Then call Gerard on 08 8303 9432 to arrange!

Did you know?

Viticare™ news is not just for Grape growers!

It is for the Viticultural industry in Australia! and we would like to hear from all of you!

Article editing!

Traditionally we have not edited articles.

However will must edit to continually improve the newsletter.

This is because some submitted articles require changes like incorrect syntax, spelling mistakes, acronyms and we sometimes have to cut and paste!

But we try very hard to maintain the integrity of your articles!

Article deadlines!

If your article is sent in after the deadline, it will be published in next months Viticare™ News!

Article Submissions!

Submitted articles should include;

- the writer,
- the writers job title, and if applicable,
- the group you represent,
- who you work for,
- and where you come

Viticare™ Enquiries?

Call Gerard on 08 8303 9432 or Gayle on 08 8568 6403

⇒ Last point to Remember!

We can't promote you, if you don't let us know!

Vintage 2002 at Langhorne Creek, SA

by Lian Jaensch, Executive Officer, Langhorne Creek Vine Improvement Committee, with thanks to Michael Potts and Greg & Robyn Follett

The growing season in Langhorne Creek this year was very mild, being one of the coolest summers on record. Only a few rare days pushed the mercury above 35°C. The cool season, with little rain, meant disease was restricted to nothing more than the odd spot of powdery mildew. This was of little concern and easily controlled. Ideal weather throughout March and April (warm, sunny and dry) provided slow even ripening of the fruit throughout

vintage and a relatively smooth intake of grapes at optimum maturity. The cool summer resulted in a late start to vintage, and slightly below average yields for both red and white varieties, but the quality of the fruit was extremely pleasing.

Cabernet Sauvignon in particular has produced some outstanding fruit this year, showing fantastic varietal character, plenty of colour, and superb flavours of mint, blackberry and cassis.

Langhorne Creek Shiraz looks excellent with wonderful ripe fruit characters of intense spice and plum. Malbec wines are showing signs of being the best for many years with inky colours and terrific depth of spice, raspberry and plum flavours. The Langhorne Creek reds are showing tannins that indicate the resulting wines will have great structure and a long cellar life.

Regional whites also fared well from the mild

weather, having excellent acid balance and attractive flavours and aroma. Verdelho and Chardonnay are producing vibrant, fresh characters of citrus and fruit salad.

Although harvest was a week or so later in the Langhorne Creek district, with some fruit still coming off the vine into the second week of May, this merely bears testament to the idyllic autumn conditions the region received.

Langhorne Creek Vine Improvement Committee(LCVIC) Audit Report 2002

by Rick Trezona, Treasurer LCVIC, Langhorne Creek, SA

On Thursday, 20th June, 2002, the Langhorne Creek Vine Improvement Committee (LCVIC) was audited for the on-going accreditation under the National Vine Accreditation Scheme. The scheme has been developed to improve access to quality propagation material for the Australian grape industries. With the accreditation, LCVIC is able to provide certified cuttings from clonal source material established in the Langhorne Creek district.

The audit was conducted by an independent auditor, Michael Awaballa, using as a guide the *AS/NZS ISO 9001 Quality systems – Model for quality assurance in design, development, pro-*

duction, installation and servicing. Wayne Farquhar, Executive Officer of South Australia Vine Improvement (SAVI), attended and LCVIC was represented by Cutting Manager, Committee Member and Treasurer, Heather Tucker, and Rick Trezona.

The day commenced with the inspection of LCVIC records where 3 source blocks were randomly selected for specific inspection. Field maps, ampelographers reports, health inspection reports and cutting managers inspection sheets were scrutinised and details later checked in the field. Ordering procedures were also audited.

The group then

went out to the cutting team where the worked was physically checked for cutting to specification, numbers and identification. Cutting summaries, quality control inspections, stock summary records, cutter identification, cutter instructions and procedures were all checked. The cutting team was made up of Jenny and Reg McConnell, Bev and Peter Gray and Trapper Holdsworth.

The auditor was well satisfied with his inspection and gave continued certification. In his report he made the comment "Particular note is made of the commitment in not only addressing the issues raised including opportunities for improvement, but also the

noticeable enhancement and modification to the system ensuring further improvement and hence effectiveness".

In the course of the day Wayne Farquhar commented on the facilities now at SAVI, Nuriootpa, were trials can be carried out with the wine making of small batches of fruit from clonal material. Last vintage he made approximately 50 litres each of wine in a controlled trial from a number of chardonnay and riesling clones to provide a very direct comparison. He expressed that these facilities would be available for fruit from Langhorne Creek.

Langhorne Creek Phone Lines

By Lian Jaensch, Executive Officer, Langhorne Creek Vine Improvement Committee, Langhorne Creek, SA

There will be a maintenance team from Telstra Country Wide focusing on the Langhorne Creek area over the next months. This is your chance to report any phone line issues. I will be liaising with the team manager.

Please contact Lian Jaensch at the LCVIC office, ASAP with any enquiries on (08) 8537 3362

Maximising viticultural operations through accurate weed control

by Adam Jacobs, Director, Vitiwise Viticultural Management P/L McLaren Vale, SA

Vineyard operations in today's viticulture industry are demanding. Many factors contribute to successful grape production, which ultimately lead to a quality wine product. With so much expansion within the industry today, management systems must be finely tuned to maximise vine growth, grape equality and, ultimately, financial profit. This article seeks to highlight the demanding herbicide programs that exist in today's management schedules. It will emphasise the importance of spray timing, selection of herbicide, identification of weeds, importance of correct machinery and assessment of performance as well as highlighting other techniques to reduce weed growth within our vineyards.

Sayings like 'if you grow healthy weeds you will grow healthy vines' and 'this development would look great if it wasn't for the weeds' generally ring in one's ears from time to time. The management program that makes a mockery of these sayings can be beneficial to vine nutrition, the build-up of weed seed and meeting crop deadlines and expectations within a vineyard operation. Water availability in this century will see much emphasis on correct weed management with every drop sprayed in the vineyard being audited for performance. *This article aims to emphasise that maximising your operation through one aspect of vineyard management, i.e., weed control, can ultimately go a very long way towards meeting expectations of vine growth, crop levels and sustainable practices.*

Herbicide programs .

The methodical task of planning a herbicide program is somewhat overlooked for a 'spray-as-you-see-a-weed program'. I cannot emphasise the importance of a well-planned and documented herbicide program, which identifies weeds that are common to one's area, and careful selection of chemicals to perform the knockout, bearing in mind that alternating chemicals is vital to reduce the resistance factor.

An example is the use of Amitrole every two to three years to reduce woody-stemmed weeds and other broad-leaf weeds that build up resistance against mainstream chemicals on the market. Never underestimate the resistance factor that builds due to poor application/timing, droplet size and incompatibility in tank mixes. Planning herbicide applications in accordance with growth stages is also important to ensure correct spray procedure is adhered to whilst keeping in mind that later applications of Glyphosate in winter may cause shoots and leaves to be stunted or distorted when they emerge in early spring. This is often diagnosed as a nutrient deficiency when, in fact, herbicide is the culprit. This chemical must be used at dormancy, preferably at an earlier stage, and generally without the mixing of a residual in the tank. Set dates and spray rates must be planned in accordance with properly-calibrated spray equipment. The most common problems that contribute

to poor herbicide programs are:

1. Poorly maintained and calibrated equipment.
2. Incorrect nozzle size and pump pressure.
3. Inadequate filtration causing blockages.
4. Hygiene of equipment.
5. Incorrect chemical selected for a specific weed.
6. Incorrect assessment of weather, i.e., windy conditions or imminent rain.
7. Machinery speed not correctly calculated and implemented.

A successful herbicide program comes from the observation of spray diaries. Analysing the chemical used, the rates applied and the volume over each hectare is important. Over an extended period, shortfalls in the program can be detected, whilst modification of program systems is imperative to specifically cater for given sites.

Other techniques

Weed suppression can be achieved without the use of chemicals every two to three months. Mulches such as straw, composted manures and new garden refuse mulches are readily available these days to reduce at least one to two applications within a season. One consideration is the thickness applied and the nitrogen that the mulch uses within its breakdown cycle. This can rob essential nutrients from the vineyard, particularly on a depleted soil type. Vine guards are a-plenty on today's market and offer another tool in the reduction of weed growth in a young vineyard and more flexible

spraying solution at the best possible time to the vineyard manager, one of which is not available with a non vine guard vineyard.

Cultivation either by machine, spot spraying or hand hoeing can offer options but can be costly. Cultivating a fresh bed for weed seed to germinate sees this method quite disadvantageous for large sites. Residual herbicides can be expensive and often don't provide a successful strike rate to the germinating weed. Its application must be timed and applied on bare soils preferably 48 hours before rain as it is crucial for the chemical to translocate into the top 100mm of soil. When mixed with other mainstream chemicals its effectiveness is often reduced. I believe the most effective residual spray application is one that is applied on its own.

Cover cropping can offer advantages to vignerons when it comes to the suppression of weeds by crowding out persistent weed germination late in autumn, which can assist in weed control later in spring. The use of cover crop horizons should be considered, e.g., vetch to provide 100-200mm cover, beans 200-400mm and rye corn 400-600mm. There are many combinations available today that ensure a thick cover crop grows in the mid row, which can be harvested as a green manure in spring. Permanent pastures can also aid in smothering broad leaf.

⇒ *Cont'd overleaf*

....accelerating the uptake of new technologies

For further information,
contact the newsletter editor,
Gerard Hogan, phone (08) 8303 9432,
Fax (08) 8303 9449, e-mail to
hogan.gerard@saugov.sa.gov.au, or by writing to
PO Box 154 Glen Osmond SA 5064.



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Maximising viticultural operations through accurate weed control

by Adam Jacobs, Cont'd from previous page

Management of slashing undervines needs careful consideration as seed heads from cover crops may germinate under desirable environmental conditions later in spring.

Broad leaf applications with Jaguar (now recommended for vineyard use) in winter at dormancy can also help to reduce broad-leaf weeds in permanent pasture mid rows. Today, much empha-

sis is placed on chemical programs within viticulture so assessment of performance is essential. Maintaining a watchful eye on germination periods while assessing the kill rate after a chemical application is crucial.

If your herbicide performance is poor it may be worthwhile considering consultation with an accredited spray contractor. Advice on rates, selection of chemical, spray drift, and spikes for the

more persistent weeds will be advantageous and assist your programs greatly. Developing herbicide programs that are effective and fall within operational budgets must be a priority in ones yearly management plan whilst utilising correct calibrated machinery will ensure success. After all growing grape vines to produce premium wine grapes is the priority, not weeds.

Results of Viticare™ evaluation survey

by Gayle Grieger, Industry Development Leader, Cooperative Research Centre for Viticulture

All member groups received a survey form a few months back, containing questions aimed at providing evaluation on the current format of the Viticare™ network. The aims of the evaluation were; achievement against project goals, satisfaction of growers' expectations and directions for the future.

Twelve groups returned their survey forms and the project team appreciates the effort of those who responded. Overall the responses were positive and indicated a high level of

satisfaction among groups with the current level of activity. Results that have a direct impact on the operation of the network over the next year are detailed below. Further results will appear in future newsletters.

As a result of the survey a change has been made to the commitment of groups to the Viticare™ newsletter. Currently groups are asked to submit four articles a year. This has been reduced to two, a far easier target to achieve. The project team will be fo-

cussing more on providing a facilitated session to Viticare™ groups that are interested in developing a regional plan or priorities. As well as improving the content of the Viticare website and continuing the development of new information products to meet growers needs.

The executive summary of the report will be available on the website at a future date, however if you or your group would like to view the complete report please contact me on ph 08 85686403 or email grieger.gayle@saugov.sa.gov.au for a copy.

New Position – Technical Applications Manager

by Gerard Hogan, Industry Development Leader, Cooperative Research Centre for Viticulture

The CRCV has just advertised for a Technical Applications Manager. The successful applicant will have responsibilities for the coordination of Viticare along with a new broader role to manage the utilisation of all the CRCV research outcomes. The new person will promote the application of these outcomes and where appropriate develop commercial opportunities.

The CRCV is committed to accelerating the adoption of new technologies generated from the CRCV research and education programmes.

Why? because much of our income comes from the export market! It's a tough world out there, and to survive, we

must stay competitive! If the CRCV generates new knowledge, extends it out to you, and you use it, then we have a high chance of staying in front of our competitors.

You also invest in CRCV research through your Grape and Wine Research and Development Corporation (GWRDC) levy.

So, to help you capture the full value of your investment, the new person will package the CRCV research generated knowledge and get it to you effectively. This is an important task as the CRCV is continuing to generate knowledge, information and technology, and

Australia is a big place!

An effective way to extend this, is to develop alliances with existing service providers, eg consultants, training organisations or the Viticare regional groups as these are often very effective networks. Information from the CRCV research/education programmes and from the centre's other sources, can be fed through these networks and delivered to you.

The Technical Applications Manager will ensure that these links are established and maintained.