

COOPERATIVE
RESEARCH CENTRE
for
VITICULTURE



Growers sharing information with other growers

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Disclaimer

The information contained in this newsletter is often written by growers and published in an unedited form. As such, it should be used as a guide only. The Cooperative Research Centre for Viticulture accepts no responsibility for the consequences of the use of the information.

Spray Day at Yenda, M.I.A.

By David Rossetto, Yenda Grape Growers Association

As trying to find the best way of spraying vines seems to be on everyone's mind at the moment it seems the best time to share with every one what has been going on here at Yenda in the M.I.A. For those who may not be aware our area is known for its dense canopies and it is a challenge for spray unit manufactures to build something that will penetrate these canopies. There has always been a lot of talk on which sprayer; i.e. make, what type of application method; air sheer, air blast or high pressure water alone, what water rate/hectare or otherwise, what ground speed, two half rows at a time, two full rows or now even three rows total;(two full rows plus two outer halves). Everything is being tried to find the best possible method.

To help things along our local Industry Development Officer, Emma Jamieson from the Wine

Grapes Marketing Board organised a field day in which all the local dealers who sell or make any type of vineyard sprayer were invited to attend. All were given guidelines to adhere to so as to give a fair and true comparison. Same rate/hectare, same ground speed, 600 L/hectare, 6km/h. Vines being sprayed were Colombard on vertical wires. Litmus paper was used in all trials to give a uniform test result. Growers had the chance to see first hand the wetting or penetration affect of every unit and then view the litmus paper to see droplet size, droplet break-up and coverage on paper. Every available spray method was tried, air blast, airsheer, electric drive fans, hydraulic driven fans, water pressure alone and combinations.

All who attended learnt a lot and the best part of all no-one won or lost. Growers had the advantage of seeing side by side which sprayer would best suit their vineyard and dealers got to see and here exactly



Being well prepared to face the foe with effective spraying



what growers are faced with every time their farm needs spraying. Thanks goes to Emma and the Wine Grape Marketing Board for organising such a great day. This leaves the door open for many more days such as this one, as many ideas and questions are sure to come from it and there is still so much more to be learnt by all.

Spray application – understanding label changes

By David Braybrook,
CRCV

Andrew Bengner has highlighted a number of issues relating to spray application in the last editions of the newsletter. While a common limitation to effective spray application is often spray coverage, a number of growers have expressed frustration in their attempt to adopt new label recommendations.

Per hectare rates and water volume recommendations are being removed from chemical labels, as it is impossible to specify a single spray volume (and application rate) due to the variations in canopy size, density, volume, trellising configuration and row spacing that exist between and within vineyards. In many cases the

use of a rate per hectare may mean growers are wasting chemical early in the season and potentially putting on insufficient quantities later in the season.

The label changes are intended to assist growers in matching their chemical requirements with the amount of target area (leaves, canes, bunches) to be covered. The complicating factor is that many vineyards are using machinery designed to achieve coverage at much lower water volumes than traditionally used. In this situation there is a risk of inadequate control if the recommended rate of chemical per 100 L of water volume is used. While coverage may be achieved at a relatively low water

volume there may not be a sufficient amount of chemical on each leaf, berry, stem to control the target pest or disease. Control requires adequate dose and coverage (plus right chemical at right time etc...).

While spray coverage can be assessed using tools such as water sensitive paper or fluorescent dye, there are no tools currently available to enable the dose of chemical to be measured. There is however a CRCV project working on this.

To enable chemical rates to match to target area the new labels specify chemical requirements under 2 spraying regimes; dilute and concentrate.



Getting the dose just right

Table 1: Common spray terminology (More definitions can be found at Avcare website: www.avcare.org.au)

Dilute spraying: Canopy is sprayed to the point of run-off using the label rate expressed as amount of product per 100 litres of water.

Concentrate spraying: Canopy is sprayed with a water volume that is less than that required for dilute spraying to the point of run-off, while applying the same amount of chemical that would have been applied when dilute spraying.

Coverage: Percentage of target surface covered by droplets (%)

Dose: The amount of chemical deposited on the target surface (leaf, cordon etc.)

Dilute spraying

When using dilute spraying the best method to determine the dilute water volume is to observe the vine canopy immediately after test spraying both sides of the row at the best sprayer set up. It may

take a number of test runs to identify the point at which spray is just starting to run off the target surface. While this sounds simple enough, it can be difficult to determine the “point-of-run-off”, as it

can be a bit subjective and will also be quite variable throughout the canopy.

The ml or g/100 L rate of chemical on the label is based on high volume or dilute spraying. Therefore, the label changes

make it very easy for growers who dilute spray, as they just need to fill up the tank using a recommended rate of chemical per 100 L of water and go and spray.

Concentrate spraying

When using spray equipment designed to achieve coverage at low spray volumes (eg. airshear equipment), difficulties arise in attempting to use the above method, as this type of equipment cannot be adjusted easily to spray to run-off. Under the new label directions the volume of water required to spray the vine to run off (dilute volume) must be determined.

Some of the ways that dilute volumes can be estimated include:

*District knowledge/
Grower experience/Using
a dilute sprayer*

It may be possible for some growers to estimate the dilute spray volume requirements for a specific canopy based on past experience. This system is fine as long as it continues working and controls the pest or disease. Alternatively, growers who have access to equipment

suitable to dilute spraying can get a indicative spray volume by using it to spray to the “point-of-run-off”.

Unit Canopy Row (UCR)

This is a relatively simple method that Noel Ainsworth outlined in the last newsletter. It uses litres per 100 metre of vine canopy rather than litres per hectare as the standard unit of measure for water volumes and is based on dimensions of vine canopy. It has been adopted by some growers and is useful for getting people to start talking in rates per metres of vine row rather than rates per hectare.

Industry recommendations

A table outlining a range of suggested dilute volumes has been developed by AVCARE with input from industry for sprawl and VSP canopy types. Similar to UCR, it pro-

vides some guidance on spray volumes based on canopy dimensions. Refer to article by Leon Radunz in Australian Grape-grower and Winemaker, August 2001 (pg 46 – 47).

While tools such as UCR and the Avcare table are useful in understanding the concepts of matching chemical rates to the target area, it is important to be aware of their limitations and to seek out as much information as possible.

For example, canopies of similar dimensions can have large differences in foliage density, which these methods don't account for very well. If UCR calculations are made using canopy measurements taken before and after wire lifts on a vertical shoot positioned trellis the recommended spray volumes will change despite the leaf area remaining the same.

“...in understanding the concepts of matching chemical rates to the target area, it is important to be aware of their limitations and to seek out as much information as possible”

Calculating amount of chemical required for concentrate spraying

For concentrate spraying the appropriate dilute spray volume for the canopy has to be determined using one of the methods suggested above and by consulting local experts. This is required to calculate the concentrate mixing rate that can be ob-

tained in the following way:

Dilute spray volume as determined above: For example 800 L/ha

Your chosen concentrate spray volume: For example 400 L/ha

The concentration factor

in this example is: $2 \times$ (ie. $800 \text{ L} \div 400 \text{ L} = 2$)

If the dilute label rate is 10 mL/100 L, then the concentrate rate becomes 2×10 , that is 20 mL/ 100 L of concentrate spray.

An increasing focus on quality assurance and environmental management

will make it important for the industry to make use of these label changes to make more efficient use of pesticides and ensure adequate pest and disease control.

Being Australian

By Maarea Karetai, Adelaide Hills Wine Region

The Adelaide Hills Wine Show Dinner was recently held in the impressive new National Wine Centre Banquet Room, with an attendance of around 200 people. The head judge, Robert Joseph, had one clear message for everyone to take away with them - Be Australian. He said that Australian winemakers must con-

tinue to be innovative and continue to offer great value for money or we will risk losing their European market. In Mr Joseph's opinion, it is not productive to be emulating French or Italian styles, instead it is the clever new wines emerging from Australia that will ensure we keep and grow our market share. With the French also confidently striding onto the

"Clean and Green" viticulture bandwagon, it is imperative that we continue to adopt new technologies and vineyard management practices to maintain our pole position there.

Congratulations to 2001 Ashton Hills Riesling and 2000 Paracombe Cabernet Franc, judged best wines of the show.



Maarea Karetai

On Farm Trials: Improving Merlot Fruit Set

By Lee Bartlett and Chris Williams, SARDI

The Adelaide Hills Wine Region highlighted the problems of poor early vine growth and variable fruit set in Merlot on own roots in the Adelaide Hills. Working with the On Farm Trials team they decided to evaluate the effectiveness of molybdenum sprays (are they necessary? Do they improve fruit set?) on Merlot on own roots.

In molybdenum trials (which consisted of 3 or 4 replicates of 2 treatments, nil & 2 applications of molybdenum, pre flowering at 300 gram/ha of sodium molybdate) molybdenum levels at 4 sites were 0.1 to 0.6 mg/kg in basal petioles for the nil

treatments at flowering. Bunch yield per vine in response to molybdenum sprays was not statistically significant due to the large variation between replicates at 4 of the 5 sites. It was commented by the growers that 2000/01 was a good set year for Merlot. It is premature to make any recommendations on when molybdenum sprays are needed. We will continue three of the five trials this season to further assess responses.

From the preliminary work on Merlot we have indicated a potential soil acidity problem at all sites (soil pH 4.5 to 5.3 in CaCl_2). Research elsewhere indicates that acid soil pH is known to reduce root growth and pos-

sibly incur transient water stress, which could reduce fruit set in some years. Use of lime to reduce soil acidity may improve root growth and fruit set and it will increase extractable molybdenum levels in soils.

In addition to the molybdenum trials on Merlot 2 ameliorant trials have been established. The trials consist of 3 treatments by ten replicates (nil, compost only 50 cm wide strip under vine and compost and lime (5t/ha)). The aims are to test the use of compost to get lime into the root zone after one winter and ameliorate the soil (raise soil pH) and to improve fruit set and bunch yield per vine.



What is the Langhorne Creek Wine Industry Council?

By Anne-Marie Smart,
Langhorne Creek

Langhorne Creek is one of Australia's oldest wine grape growing districts. The first vines were planted in the 1850's and it's probably fair to say that the district's wine industry has plodded along at a very steady pace ever since then. But in the last decade Langhorne Creek has faced dramatic change due to incredible expansion.

Approximately two thirds of the region's current vineyards have been planted since 1996. Langhorne creek now has more than 5,000 hectares of vines making this region one of the biggest wine grape growing areas in Australia. As you can imagine – this was unbelievable growth in a short space of time and it is still growing!

The rapid expansion of this small and relatively untouched region has created quite a storm. On the one hand Langhorne Creek provides an excellent example of a modern and efficient industry that has generated growth and wealth for the community. On the other hand Langhorne Creek is a community that has struggled with the concept of growth and change and in many ways the town itself is relatively unchanged compared to its surround-

ings.

Why is this the case?

The reasons are many and varied, but undoubtedly the rapid growth was unforeseen and caught the community unprepared and consequently has placed considerable pressure on infrastructure and resources.

Several years ago it was recognised by several "creek identities" that there was a need to develop a community plan to deal with and harness the growth and the region's potential. Through a consultative process the formation of a development plan highlighted that an overall industry body was needed to help guide the growth and as a result the Langhorne Creek Wine Industry Council was established in 2000.

The LCWIC has many roles from providing leadership, acting as the unified voice of the region, assisting with information transfer and communication processes between industry groups, sourcing and administering funding, undertaking research projects that benefit the region. The list goes on. Basically it is a group that brings it all together!

The LCWIC also instigated the development of the "Langhorne Creek Wine Industry Fund" – a regional industry funding

scheme administered by the Minister for Primary Industries and Resources SA. This funding, along with voluntary contributions, sponsorships and grants, funds the operation of the LCWIC and its projects.

A position of Projects Manager for the LCWIC came into force in August 2001 with Anne-Marie Smart taking on the challenging (and hopefully rewarding) position. Being a new organisation with a brand new position, the role of Projects Manager is evolving. But in short the role is really about four key areas:

- Communication
- Liaison
- Networking
- Planning

Communication comes in many forms and is the most important skill to bring to this industry and this region. Open lines of communication between the Projects Manager and the LCWIC and the rest of the industry will lead to a unified voice, will lead to

better efficiency and less duplication, will lead to gaining confidence and getting information and ideas flowing.

Liaison between the various groups operating in the region is also important, particularly between the wine-makers and grapegrowers associations.

Networking is often a forgotten role, particularly in this kind of environment. But without a doubt the more networks that are established between the Projects Manager and the LCWIC and the rest of the industry be it local, state or federal will lead to benefits to this region.

These three areas will hopefully establish the Projects Manager as the first point of contact for anything to do with the Langhorne Creek wine industry. This role until now has been shared amongst several volunteers. The benefits of having one contact point are already blindingly evident.



Langhorne Creek WIC cont'd

Planning of course is essential and it is ongoing and always being revisited and updated. Current and immediate plans include developing the old school house into a wine centre for the region which would also house the LCWIC.

Other plans include

- Establishing a directory of research and development that has taken place to date in the region
- Introducing computer

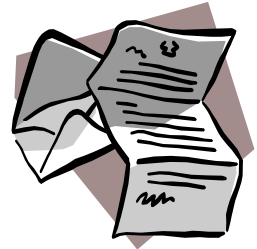
technology and the internet to growers

- Profile development and awareness through information kits, website and familiarisation tours
- Establishing a regional wine industry resource centre

This is a short snippet of what the LCWIC is all about and what it hopes to achieve in the short term. Now that the mechanisms are in place to ensure the organisation operates ef-

fectively, we can hopefully start acting upon some of the amazing potential that exists within this region – after all potential means nothing if it is not used!

Note – if you wish to regularly find out what's happening in Langhorne Creek, you can subscribe to the LCWIC monthly newsletter. Contact Anne-Marie Smart on 8537 3362 or info@langhornewine.com.au



Increasing networking with newsletters

Regional Innovation opportunities

By Noel Ainsworth, CRCV

So what is stopping your group from getting involved with local efforts to resolve important regional issues. If funding is the first excuse, I think that you should consider the GWRDC RITA program. The Grape & Wine Research & Development Corporation's Regional Innovation and Technology Adoption program has around \$500,000 available this financial year to support regional innovation projects through local associations.

The types of projects that will be considered favourably include vineyard

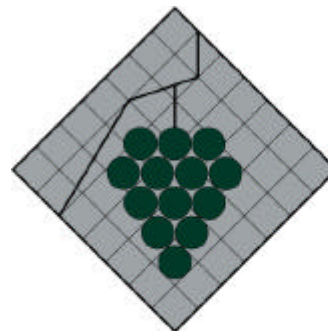
demonstration or testing of emerging techniques, regional strategic planning, performance benchmarking and analysis, regional information analysis, specific training relating to a key issue, professional development projects for industry personnel, seed funding for preliminary or pilot trials of significant local impact.

As a general rule a maximum of \$15,000 will be provided for individual projects but organisations may propose more than one project. Each project will be considered on its individual merit according to the selection criteria .

RITA application forms and guidelines for potential applicants can be obtained from the GWRDC's offices by calling (08) 8222 9266 or can be downloaded from the corporation's website at

www.gwrdc.com.au.

As a guide, a listing of current RITA funded projects are presented on the following page courtesy of Anita Poddar of GWRDC.



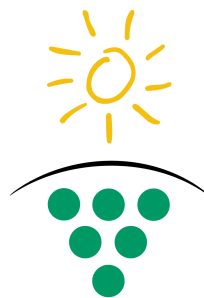
**Grape and Wine
Research and
Development Corporation**

RITA project examples

Regional irrigation benchmarks for winegrape growers in the Murray Valley	Victorian and Murray Valley Wine Grape Growers' Council
Application for assistance to develop strategies for the McLaren Vale wine industry	McLaren Vale Grapegrowers and Wine-makers Association
Matching rootstock and scion combinations to environmental conditions in the Murray Valley	Victorian and Murray Valley Wine Grape Growers' Council
Benchmarking vineyard management practices for premium wine grape production in high vigour sites	Wine Industry Association of WA
Botrytis management: an integrated approach	Wine Industry Association of WA
Downy mildew infection events in Western Australian viticulture regions	Wine Industry Association of WA
The Timing of Rust mite (<i>Calepitrimerus vitis</i>) Spring Migration in McLaren Vale and the Adelaide Hills and the Efficacy of Wetable Sulphur and Canola Oil as an Alternative Control for Rust Mite in Cabernet Sauvignon and Sauvignon in McLaren Vale and th	South Australian Farmers' Federation
Investigating a method to reduce the effects of Silvereye <i>Zosterops lateralis</i> damage to quality of the Southern Australian grape harvest	Gippsland Winegrape Growers Association, Bilney
On-Farm Demonstration of Regulated Deficit Irrigation	Victorian and Murray Valley Wine Grape Growers' Council
On-Farm Demonstrations on the Prevention and Control of Powdery Mildew	Victorian and Murray Valley Wine Grape Growers' Council
Alternative Light Brown Apple Moth (<i>Epiphyas postvittana</i>) control techniques to reduce the use and reliance on broad spectrum insecticides	Eden Valley Winegrowers Association
Investigation of the effect of mulch on vineyard performance in southern Victoria	Sunbury District Grape Growers Association
On Farm Trial: Regulated Deficit Irrigation trial in Cabernet	Perricoota Grapegrowers Association
Control of Bitter Rot or Ripe Rot of grapes caused by <i>Colletotrichum</i> spp	Hunter Valley Vineyard Association Inc
Australian grapevine yellows: source and spread	Riverland Wine Industry Development Council, c/- Australian Vintage Ltd
Development of regional protocols for the management of exotic pest or disease incursions in Greater Victoria	Yarra Ridge Vineyard
Growing and making world class mediterranean varieties in the King Valley	King Valley Grapegrowers Association, Carson
Implementing environmental management at the ground level	Goulburn Valley Wine Association
Improved control of bunch rots in Granite Belt wine grapes	Kominis Wines
Improved control of bunch rots in South Burnett wine grapes	South Burnett Wine Industry Association, Captain's Paddock
Reducing and measuring packaging waste via the National Packaging Covenant Action Plan Kit	Winemakers' Federation of Australia
Sprayer seminar	Victorian and Murray Valley Wine Grape Growers' Council
Supply chain competitiveness of the Western Australian Wine Industry	Wine Industry Association of WA
Cool climate canopy management	King Valley Grapegrowers Association, Carson
Improving wine quality through efficient control of Botrytis bunch rot.	Coonawarra Vignerons Association

.....accelerating the uptake of new technologies

For further information,
contact the newsletter editor,
Noel Ainsworth, phone (08) 8303 9304,
Fax (08) 8303 9449, e-mail to
ainsworth.noel@saugov.sa.gov.au, or by writing
to PO Box 154 Glen Osmond SA 5064.



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Vineyard Data Management System development

*By Graham Wiltshire, Tasmanian
Pinot Noir Group*

Some months ago we reported that the Tasmanian Pinot Noir Group were developing a new version of their Vineyard Data Management System (VDMS). The revised version was made possible by a grant from GWRDC under the Regional Development Innovation and Technology Adoption (RITA).

The VDMS is a user friendly database for recording current and historical information with special reference to recording phenological data for evaluation of clonal material or experimental blocks of vines.

the software also provides for:

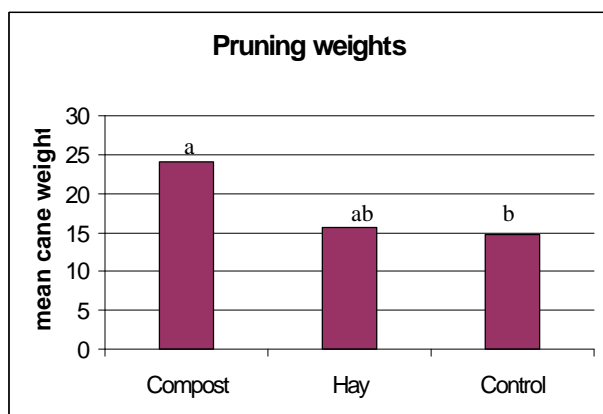
- Rainfall and temperature records
- Block details by variety - clones and sub-blocks
- Seasonal data
- Canopy management records, sampling and harvest data
- Crop calculator and fruit thinning programs
- Spray calculator, records and stocks received and used
- General IPM observations and diaries



The program is designed for smaller vineyards up to twenty hectares although vineyards with larger areas are finding it satisfactory.

If your Viticare group would like to trial the program please contact the TPN Group by email - pinot-noir@tassie.net.au

Correction to previous issue: Mulching trials



By Natalie Laukart, DNRE

Pruning weight results for the Sangiovese

The same letter (a or b) denotes no statistical difference between treatments

The subscripts showing treatment differences should be "ab" for the hay

treatment. There was no significant difference between the hay and control treated vines and no significant difference between the compost and hay treated vines however there was a significant difference between the compost and control treated vines.