

COOPERATIVE  
RESEARCH CENTRE  
for  
VITICULTURE



Growers sharing information with other growers

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## OFT around the nation

By Natalie Laukart DNRE

The majority of On Farm Trial growers have continued with their trials this season and a number of new growers have been recruited to taking up On Farm Trials on their properties. New growers have been briefed and trials have been set up in all vineyards. Old growers have reviewed and evaluated their first year trials (by means of evaluation sheets) and are making appropriate changes to their trial design (where necessary) or continuing, where no changes were required, to validate their

results. The evaluation sheets were useful in determining the growers' thoughts, understanding and future prospects of OFT. Six workshops held so far gave the growers a chance to discuss their limitations and success stories from last season as well as giving the new growers an overview of expectations and limitations.

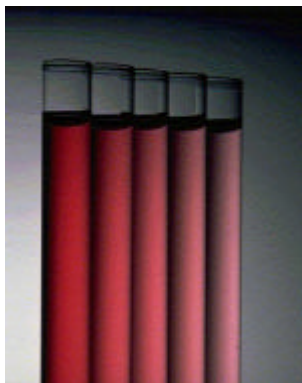
Some lessons learnt by growers and researchers were:

- ❖ Protocols are not specific enough to determine how many samples to take for an as-

essment. Protocols have been refined and now include examples of sampling

- ❖ Understanding the concept of non-biased and representative sampling. Again protocols have been revised and examples are given
- ❖ Non-results and results are enthusiastically received and become a good talking point at grower meetings

More growers are hearing about OFT and wanting to participate



Monitoring colour intensity as an indicator of quality

## Vineyard classification in Loxton

By John Petch, Loxton

Simeon Wines (Loxton) Shiraz Quality Group will meet Thursday November 22<sup>nd</sup>. Then they will discuss grape quality assessment and managing vineyards to meet grape quality specifications.

Noel Ainsworth Viticare Coordinator at the C.R.C for Viticulture will initiate

discussions using two of the information packs available to groups. This will give growers a snapshot of the technologies and advances emerging out of the relevant CRCV research projects.

The subjects will be topical as Simeon Wines embarks on a rigorous vineyard classification pro-

gram as a lead-up to the 2002 vintage.

Four varieties Cabernet Sauvignon, Merlot, Ruby Cabernet and Shiraz will be measured for colour to determine the colour payment component. It is expected that grapes not attaining minimum colour targets will be heavily penalised.

## Mulching Trials

By Natalie Laukart and  
Cassandra Scheffe DNRE

As environmental sustainability becomes an important issue in the vineyard, growers are looking for alternative means of managing water resources and reducing herbicide use, whilst improving soil health.

Hence, the humble mulch is rapidly gaining prominence, along with its value-added cousin, the compost. Nine growers across Victoria, two in the Adelaide Hills and one in NSW are trialing organic waste mulches on their properties. The three main mulches that are being tested against normal practice/bare ground are straw, compost and fresh/composted grape marc

(+/- lime).

As most of the growers have been involved in these trials for over 12 months, there are only three new growers who are putting down their mulches this spring. The main aim of these trials is to improve water retention and maintain, or improve, the quality of the grapes picked.

Secondarily they are also looking at weed suppression. Reapplication of the mulch is generally required every three years, depending on the thickness of application.

In addition to evaluating the benefits of mulch application, potential risks are also being considered. These include the potential for introduction of

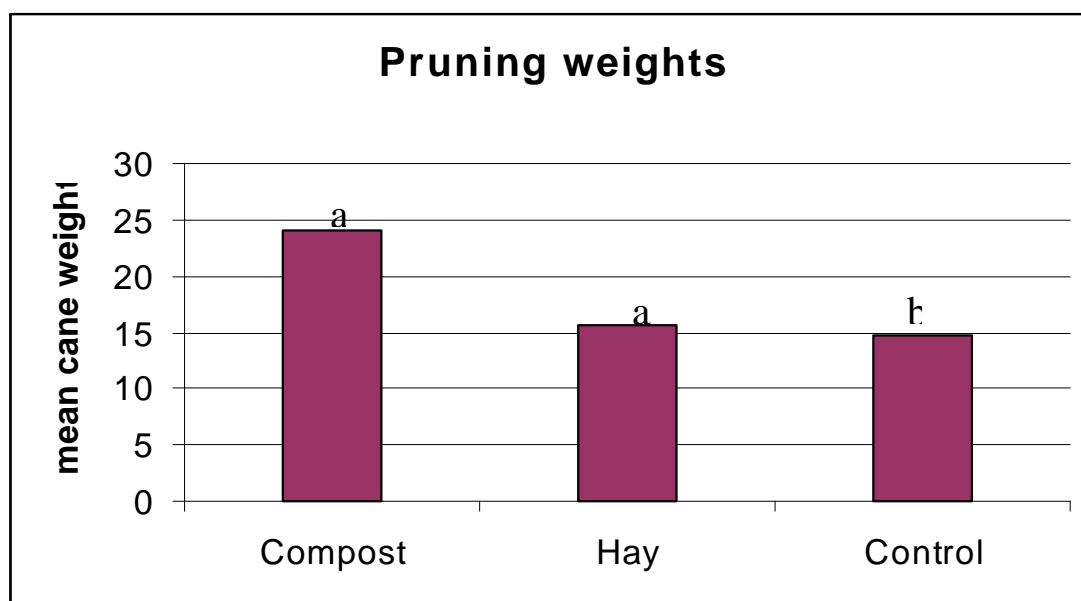
foreign weeds, altering the nutrient balance, and the economics of application. Due to the potentially high cost of applying value-added products, ie composts, a cost:benefit analysis conducted over several years is required to identify the true cost recovery of this practice.

However, as the benefits of mulching can take a few years to become evident, growers must be prepared to focus on the long-term benefits of such practices.

Recent results from the north-east Victoria are very promising, with compost application resulting in better establishment of young vines, in both Pinot Noir and Sangiovese varieties.



*Straw can be useful for weed suppression*



*Pruning weight results for the Sangiovese.*

*The same letter (a/b) denotes no statistical significance between treatments.*

## How do you rate?

By Andrew Benger, Langhorne Creek

After many years of inconsistencies and variations in label format (a grower's point of view) all agro-chemical companies have now adopted a uniform system of labelling. Regardless of this, attendance at a number of meetings of late has revealed continued confusion amongst growers about how to calculate ap-

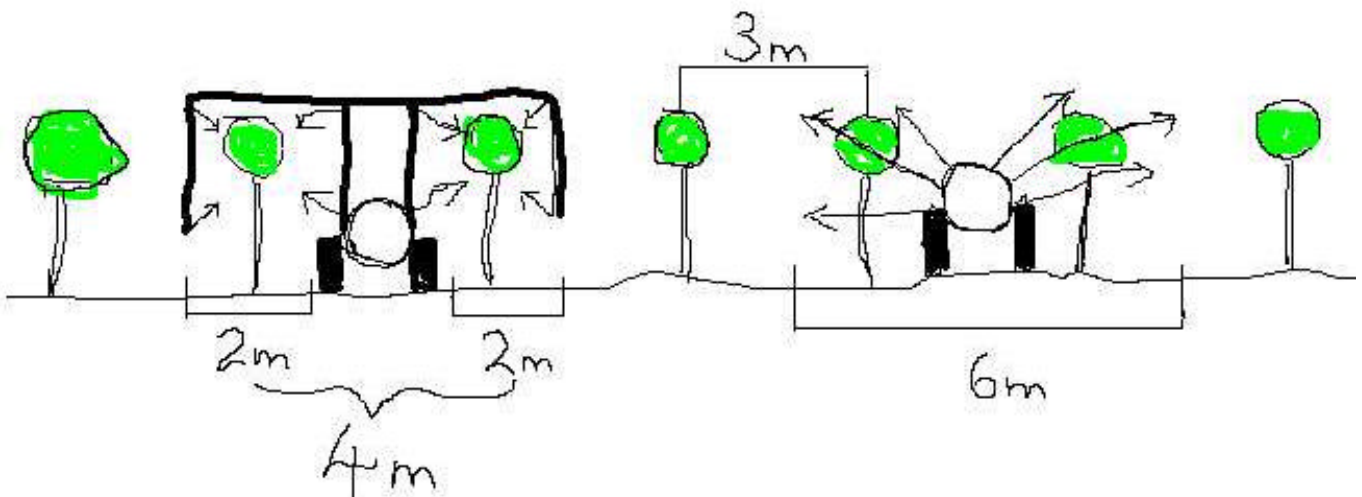
plication rates. The main source of confusion is the calculation of the chemical per hectare rate in low volume or concentrate application situations.

I'd like to generate a bit of discussion on this topic. Previously I discussed my views on the importance of understanding the principles of air assisted spray application and the need to know the air output of your spray

rig so that you can accurately calculate your optimum spraying speed. To me, the next step in the process is working out how much chemical to apply per hectare, or alternately how much chemical you've actually applied per sprayed hectare, which to me depends on the nature of your spray rig.

There are only two types of spray rig in my opin-

ion, 'one side at a time' types and 'both sides at once' types. 'One side at a time' sprayers apply chemical to the entire area of a vineyard whilst 'both sides at once' sprayers only apply chemical to a portion of a vineyard, preferably only to the canopy. Hopefully the following picture demonstrates what I mean;



With a 'one side at a time' unit the entire ground surface area of a block gets sprayed. So if the spraying speed is 5KPH and the output is 25L/min you are applying 1000L of mix/sprayed Ha. (3m row spacing = 3.333Km row/Ha) If you use a 'both sides at once' unit, set up as in the diagram, spray is only applied to 2/3 of the total block area.

So at the same speed and output the application rate is 1500L of mix/sprayed Ha. ( A 1m wide strip between the vine rows is no longer part of the sprayed area ) In effect the application rate/Ha is concentrated by the spray being directed at the vine row.

The 'mystery' in all of this is the question of 'what is a sprayed hec-

tare?' Should we even be talking and calculating in rates/hectare when what we're trying to do is spray a volume of canopy? This is where the confusion starts. This confusion is then compounded by talk about the need to concentrate spray mixes to accommodate low volume application.



## How do you rate?

Looking back at the ‘Something in the air’ discussion, Paisnel (1999) states that the correct application range is 1L of spray mix/10 to 15m<sup>3</sup> of air. So again the amount of air a spray unit delivers is the critical factor in determining application parameters. Whilst this isn’t a difficult calculation to do once you have all the numbers, it can still be confusing. From this the critical factor becomes the concentration of chemical in the spray mix.

Reading a few chemical labels I see that some give application instructions and some don’t. As an example the label on Captan states that it’s recommended rates are for application with high volume spraying to the point of run off. Whereas the

Thiovit label gives only a rate/100L and no application instructions, although a phone call to the manufacturer revealed that it is preferable to apply the mix to almost the point of run off.

So does the nature of the chemical and its mode of action determine the volume of mix it needs to be applied in? Is it appropriate to try and apply some chemicals at low mix volumes and hence in a concentrated form? I can’t see a problem if the concentrated, low volume application mix is only applied to the desired target. My concern is when these concentrated mixes end up off target and have the potential to cause contamination.

My solution for the time being is to stick to the la-

bel rates (as the law requires). Apply as per the manufacturer’s instructions. Calibrate my mix output to meet these instructions. Calculate my ground speed using row canopy volume and the air output of my unit. And most importantly make sure that off target application is avoided. That’s it, chemical rate/Ha and application rate/Ha become an artefact of these parameters and aren’t used in any calculations.

Although I do work these out so that I know how many Ha I can spray per tank and how many tanks I’ll need per block.

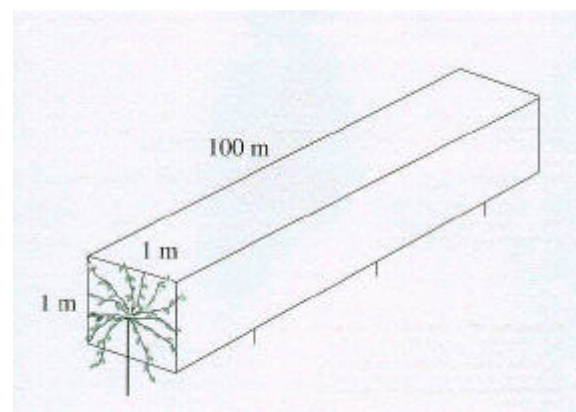
Lots of questions and not many answers, but the idea is to generate some discussion on this topic.



## Further information on Unit Canopy Row

By Noel Ainsworth, CRCV  
If you want further information on this area, I would suggest accessing the fact sheet entitled ‘Unit Canopy Row, A better way to calibrate your sprayer for fruit trees and grapevines’ by Geoff Furness and Peter Magarey on the web page <http://www.sardi.sa.gov.au/hort/entomolo/ucrspcal.htm>

Two other related spray application and technology information pages are at [http://www.sardi.sa.gov.au/hort/spraytec/publn\\_pg.htm](http://www.sardi.sa.gov.au/hort/spraytec/publn_pg.htm) and [http://www.sardi.sa.gov.au/hort/spraytec/links\\_pg.htm](http://www.sardi.sa.gov.au/hort/spraytec/links_pg.htm)  
For anyone contemplating low volume (concentrate) spraying, you should play close attention to the notes on the topic in this article.



*Unit canopy row is a canopy 1m high x 1m wide by 100 m long*

## Presentations showcasing research progress

By Noel Ainsworth, CRCV

These are approximately 20 minute long presentations updating growers on what is emerging out of the 50 or so viticulture research and education projects under way through the CRCV.

Please select one or two and get in touch so I can book some time in my diary to deliver at grower filed days or evening meetings.

Cooperative Research Centre For Viticulture, Viticare Information Topics

General

- Introduction to the CRCV
- Issue prioritisation for grower groups

Quality

- Assessing and managing vineyard variability and its affect on yield and quality attributes
- Grape quality assessment (including Specifying quality parameters and Measuring quality)
- Minimising pest, disease and pesticide contaminants
- Managing vineyards to meet grape quality specifications (including Dried fruit and Wine grapes)
- Improving fruit quality through plant breeding
- Advancements in molecular plant breeding

Sustainability

- Understanding grapevine water use efficiency (WUE) as an integrated management practice (including Tools and understanding, Strategies, Influence bunch architecture and disease incidence, Nitrogen requirements and Salinity)
- Increasing understanding of the grapevine – environment interaction
- Improving pest management
- Environmental Management for the viticultural industry
- Supporting changes in sustainability and quality with training



*Finding out the latest on the CRCV research*

## Tumbarumba Rust & Bud Mite Farm Trial

By Steve Mitchell, Tumbarumba

Ablly assisted by, and with thanks to David Braybrook, several local and leading vigneron in the Tumbarumba G.I. Region undertook a trial to assess the early season application of sulphur in the control of rust mite.

The trial involved designating a treatment area within respective vine-

yards. One plot within the treatment area received a high water volume application of Sulphur & vegoil (to achieve saturation of cordon) at woolly bud and the second plot received a traditional application of Sulphur at a lower rate of water at budburst.

A survey was then conducted at '5 leaves separated stage' (E-L No. 12) to assess any damage and

compare the differently treated plots.



## Tumbarumba Rust & Bud Mite Farm Trial continued

Results of the trial conducted by Steve Mitchell at Roaring Mountain Vineyard at Tooma:  
 On 6 Sept 01 -Treatment plot "A" (woolly bud) with Thiovit and vegoil at woolly bud; application rate of 900 litres of water per hectare using 550

grams Thiovit & 1.4 litres of vegoil per 100 litres of water.  
 On 17 Sept 01 - Treatment plot "B" (budburst) with Thiovit at 400 litres water/Ha using 1.25 kg/100L water  
 On 22 Oct 01 – at 5 leaves separated (about 20 cm

shoot length), using a damage assessment scale of "0" for no damage, "1" for some damage and "2" for severe damage, 120 shoots in each "A" and "B" were assessed as follows :

Treatment/Score	0	1	2
"A" woolly bud	115	5	0
"B" budburst	90	18	12

The two photos accompanying this article indicate severe damage (rated "2") to plot "B". There was no apparent 'severe' damage on the plot receiving "woolly bud" timed application.

Other trials conducted by Cathy Gairn at Tumbarumba and Ian Bell at Maragle Creek produced similar results and were similarly impressed by the comparisons. Further monitoring of the treatment areas will be made in late summer to assess any 'bronzing' of leaves that may give further comment on rust mite population. It should be noted that no vineyard had a history of

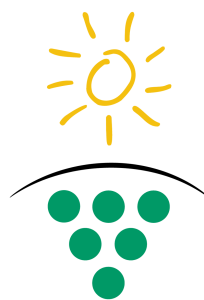
severe early or late season mite damage. Some isolated early spring leaf distortion or shortening of growing shoots had been attributed to other potential causes. All agreed that the results of the trial will dictate

conducting similar tests over a further 1-2 seasons in order to give credence to this seasons results and to rule out other causes of leaf distortion.



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## Environmental Management Systems & Australian Agriculture

By David Baker, CRCV

The development and application of Environmental Management Systems (EMS) for viticulture is a research priority of the Viticare program, however our Industry is not alone in its interest in this area.

There is considerable work taking place in other industries and in Australian agriculture in general.

Between the 5-8 November, 190 researchers, managers and primary producers from all states and overseas, gathered in Ballina, NSW, for the 2nd EMS in Agriculture Conference, to discuss work to date and the future direction of EMS for agriculture.

Sessions involved discussion on topics including, the role of the marketplace in EMS; integration of EMS with other activities; EMS in regional and industry contexts; how EMS can improve environmental outcomes; encouraging involvement; support tools; and National and state frameworks for EMS.

Viticulture and the Wine Industry were well represented with presentations by several speakers and active contributions from the floor.

One event of particular note during the conference was the launch of a discussion paper prepared by a Commonwealth-State Government

working group, entitled "Towards a National Framework for the development of EMS in Agriculture".

*The discussion paper is open for public comment until 31 March 2002 and can be downloaded from [www.affa.gov.au/ems\\_framework](http://www.affa.gov.au/ems_framework).*

Throughout the conference, debate and discussion was active and animated, and while the direction and application of EMS in Agriculture is by no means finalised, it is certainly taking shape.

The members of the Viticare project team, came away from the conference reassured that the direction and work to date of the Viticare EMS project reflects, and in several aspects is in advance of, the national debate.

