REGIONAL ENVIRONMENTAL BEST PRACTICES FOR VITICULTURE IN THE PYRENEES AND GRAMPIANS REGIONS



State Government Victoria
Department of Primary Industries

Australian Government
Grape and Wine Research and Development Corporation

FINAL REPORT to
GRAPE AND WINE RESEARCH & DEVELOPMENT CORPORATION

Project Number: RT 04/12-3

Principal Investigator: **Ms Louise Wood**
Department of Primary Industries, Victoria

Research Organisation: **Pyrenees Grapegrowers Group**
Date: **March, 2006**

TABLE OF CONTENTS

	Page
1. Executive Summary	1
2. Background	2
3. Objectives	3
4. Method	4
5. Results & Discussion	6
6. Outcomes & Conclusions	7
7. Recommendations	8
8. Budget Reconciliation	9
9. References	10
10. List of Appendices	10
11. Appendices	11

1. EXECUTIVE SUMMARY

Grapegrowers in the Pyrenees and Grampians Regions in Western Victoria were exposed to Environmental Best Practices through a workshop arising from a project in the Yarra Valley where codes of practice were developed. They saw the benefits of implementing "Environmental Best Practices for Viticulture" for their combined area, and were excited by the prospect of developing an Environmental Management System that was specific to their areas.

An application for RITA funding was approved to assist the growers from both regions go through an assessment process and identify opportunities to improve their environmental practices. The project was facilitated by Louise Wood from DPI's Grapecheque program, with support from the regional association and local growers.

The growers identified the priority issues for their regions and workshops were constructed around those issues. The main issues were water management, salinity (both soil and water), vineyard floor management, bird management (both for pest control and biodiversity), and the development of simple data recording systems for the area.

At the end of the project growers were more aware of issues associated with environmental management, they had a relatively simple check-list system to monitor environmental performance, they were able to discuss issues with experts and with their colleagues, and were able to identify areas for further improvement and training.

Growers involved in the project were all very positive and enthusiastic regarding both their participation and their ongoing use of the manual. They indicated that the manual would be of great benefit not only to existing growers, but for new growers wishing to invest in the area. They also felt it was a pro-active step toward promotion of the regions and proving that they are environmentally aware.



Water supply for a Pyrenees vineyard (A.Hart, 2005)

2. BACKGROUND

The Australian wine industry is involved in a wide range of environmental activities (AWIS, 2005). This is because the Australian wine industry trades on a reputation of being 'clean and green', and increasingly there is a need for growers to provide evidence to competitors, retailers, consumers and governments that grapes are grown with minimal impact on the environment (AWIS, 2005).

Grapegrowers in the Pyrenees and Grampians Regions in Western Victoria saw the benefits of implementing "Environmental Best Practices for Viticulture" for their combined area, and were excited by the prospect of developing an Environmental Management System (EMS) that was specific to their area.

Their interest stemmed from two workshops held in Ararat, that were facilitated by Grapecheque and presented by DPI's Alison Medhurst and Emily Tee. The first of these, held in early September, 2004, was an "Introduction to Environmental Management Systems" workshop, which ran for three hours. The workshop covered:

- an introduction to what Environmental Management is and what is going on in viticulture,
- an outline of the opportunities, use and advantages of the CRC for Viticulture's environmental risk management tool, VERA (Viticulture Environmental Risk Assessment),
- discussions about the development, issues and successes of a Regional EMS in the Yarra Valley,
- a presentation from a vineyard manager from the Yarra Valley, discussing the Yarra Valley's experiences with their regional EMS, why they became involved and some of the challenges they faced.

This first workshop was jointly funded by:

- the Greater Victoria Wine Grape Industry Development Committee (GVWGIDC),
- Yarra Valley Wine Growers Association, through the Grape and Wine Research and Development Corporation (GWRDC),
- Department of Primary Industries (DPI),
- the Rural Industries Research and Development Corporation (RIRDC) and;
- the Vineyard Environmental Risk Assessment (VERA) project - supported by the Cooperative Research Centre for Viticulture (CRCV) and DPI.

At the end of this workshop, the Pyrenees and Grampians growers decided that they wanted to pursue the development of an EMS for the region following the Yarra Valley EMS model. A second workshop was organised, this being held in mid-November 2004 (see appendix 6). This was a one-day workshop funded by DPI and facilitated by Grapecheque. PETP funding (Priority Education and Training Program Funding) was accessed by Alison Medhurst, from the DPI Horticulture team to help fund the workshop. During this workshop the growers worked through the self-assessment tool and manual developed by the Yarra Valley, and identified areas that may apply for their regions.

"It provides a *systematic approach* to *record, evaluate and improve* individual vineyard practices"
from the final evaluation workshop

"It raises the status of the region as *environmentally responsible*"
from the final evaluation workshop

3. OBJECTIVES

The objectives of the project were to:

- Trial and apply regionally based environmental benchmarks on vineyards in the Pyrenees and Grampians Regions, and identify what is "best practice" in these regions;
- Provide a system of accounting for environmentally sustainable best practice benchmarking that will enable "clean, green" marketing claims to be made confidently;
- Encourage vineyards and wineries to develop consistency and compatibility with the existing Shire values and legislation, landscape and to enhance a positive image of the industry to the community;
- Assist Pyrenees and Grampians growers to understand how their activities may impact on the environment, and to develop practical action plans for implementing best environmental practices on vineyards;
- Provide a template and practical experience in the application of environmental benchmarks that can be promoted for adoption by other wine grape growers;
- Whilst undertaking the process, identify areas where more knowledge is required, and to provide training in these areas.



Overlooking a Pyrenees vineyard (A.Hart, 2005)



Lunchtime at a workshop (L.Wood, 2005)



Hard at work (L.Wood, 2005)



Vineyard looking across to Mt Langhi Ghiran, (A.Hart, 2005)

4. METHOD

This RITA project "Regional Environmental Best Practices for Viticulture for the Pyrenees and Grampians Region" involved adapting the Yarra Valley self-assessment tool and manual to suit these regions. Issues originally identified that needed to be adapted included:

- water management,
- salinity (both soil and water),
- vineyard floor management,
- bird management (both for pest control and biodiversity), and;
- the development of simple data recording systems for the area.

Growers identified the above areas as priorities, as well as learning more about chemical application and storage requirements, and the use of recycled water.

The proposed process for adapting the Yarra Valley assessment tool and manual was to run workshops on the issue to be addressed , where growers could source the latest information on the issue and, either develop or amened, the relevant section of the manual on the same day.

However, due to various issues (mainly the lack of time that the growers had available to commit), the workshops were held, and then Kym Ludvigsen (Ludvigsen Viticultural Services) and Grapecheque facilitator Louise Wood (Department of Primary Industries) adapted the manual, before running the changes by the group for their approval. Also, due to lack of time and the fact that growers were unable to commit to another workshop, the workshop on bird control has been re-scheduled for 2006.

Growers perceived the benefits of developing environmental benchmarks for the Pyrenees and Grampians regions as being to:

- Promote better vineyard and winery practices and give people a target to aim for;
- Enable growers to identify areas they are perhaps not doing so well in, and require further training and development in;
- Enable growers to measure and adjust performance against targets and to assess performance against peers;
- Have evidence to show the community in promoting the industry as sustainable to consumers and neighbours;
- Provide information on environmental responsibility and best practice, enabling transparency and openness of operations;
- Demonstrate environmental credibility to a range of stakeholders;
- Ensure market access for the regions;
- Social benefits include the forming of new networks and enhanced working relationships within and between the regions, as well as the opportunity for growers to demonstrate Best Environmental Practices to their neighbours (particularly those situated on the urban fringe).



Vineyard near Bald Hill (A.Hart, 2005)

This table summarises the workshops and presenters for the program

		Personnel	Date	Number of Participants
Project planning & suggestions for amending documents	• Communicating via telephone and email • Meeting- Kym Ludvigsen & Louise Wood- 31/11	**Liaison with group members and GWRDC:** Louise Wood **Application development:** Louise Wood and Dave Robson (President, Pyrenees Grapegrowers Group) **Document amending:** Louise Wood & Kym Ludvigsen	Ongoing from November 2004	
Prioritising	• Survey to prioritise topics growers wanted to learn more about was filled out by approximately 30 growers (filled out at a workshop on an unrelated topic) • These were prioritised, so that the top four were identified	**Survey design:** Louise Wood **Workshop Faciltiation:** Louise Wood	25/2/05	30
Surveys sent out	• A survey and letter were sent to all growers in the regions that were on the Grapecheque database (see appendix1) so that workshops could be tailored to meet their needs. • Results were compiled and made available to presenters	**Mailout and collation of results:** Louise Wood **Liaising with presents as to content of workshops:** Louise Wood	31/5/05	10 surveys filled out and sent back
Technical Workshop 1	• Vineyard Floor and Data Management workshop conducted (see appendix 2 for flier and 5 for evaluation results) • Media release developed and sent out • Article published in the Bendigo Advertiser 14/9/05 (see appendix 8)	**Logistics:** Louise Wood **Workshop faciltiation and evaluation:** Louise Wood **Workshop Speakers:** • Richard Versteegen and Stephen Kolotylo,WorkSafe Victoria • Rachel Croucher-Griffin, Arkive Software • Vincent Ball, PAM Ausvit • Chris Penfold, University of Adelaide • Louise Wood, DPI	2/9/05	20
Technical Workshop 2	• Irrigation and Water Management 11/11 (see appendix 3 for flier and 6 for evaluation results)	**Logistics:** Louise Wood **Workshop faciltiation and evaluation:** Louise Wood **Workshop Speakers:** • Ben Reeve, Mike Stephens & Associates • Dr Ian Goodwin, DPI	11/11/05	15
Evaluation workshop and editing of final draft documents	• Workshop held on 2/12/05 (see appendix 4 for flier and 7 for evaluation results)	**Logistics:** Louise Wood **Workshop faciltiation and evaluation:** Louise Wood **Workshop Speaker:** Louise Wood	2/12/05	12

5. RESULTS & DISCUSSION

The project was funded jointly by GWRDC's Regional Innovation and Technology Adoption (RITA) fund and DPI. As part of the project, the Yarra Valley's "environmental best practices manual" and "self assessment questionnaire's" were adapted to suit these regions. It was decided as the project progressed that the legislation section that makes up part of the Yarra Valleys manual would be omitted from this manual, due to the ever-changing nature of this information. The group agreed that if there was a reference to where to find this information, then people would obtain the most up to date information, thus alleviating the possible problem of this section becoming out of date and people using the wrong information.

The group also decided that rather than having a large number of manuals circulating, it would be better to put the majority of them on CD and publish the self-assessment questionnaire and the summary pages out of the manual.

As was mentioned by one grower in the evaluation session (see appendix 12), the whole project has been a big highlight for the regions. There was good attendance (up to 20 per workshop) and repeat attendance (all at least 12 or above) at the workshops, which is not something that is common in these regions. The growers felt privileged to have had the opportunity to hear from some fantastic speakers, including some industry leaders. There were many new things learnt in the workshops, such as about workcover issues and the importance of vineyard floor management (see appendix 5).

Growers felt that participating in the project has provided them with a systematic approach to record, evaluate and improve individual vineyard practices, and it has raised the status of the region as "environmentally responsible" (see appendix 7).

All of the attendees at the workshops, along with both the Pyrenees Grapegrowers Group and the Grampians Winemakers, strongly support, and agreed to promote, the use of environmental benchmarking across all vineyards in the regions. They feel it will be very useful advertising to prospective buyers (especially export), and it may minimise planning restrictions placed upon them and demonstrate that the industry is environmentally responsible and has low environmental impact to the community. They also believe the tools will be a valuable resource for new grape growers.

"We have established the undervine trial that Chris Penfold discussed, comparing native grass, mulch and herbicide"
from the evaluation workshop



Sunrise in the Grampians (A Hart, 2005)



Overlooking the Grampians (A Hart, 2005)

"It highlighted the need for good soil moisture monitoring"
Water & Irrigation workshop participant

6. OUTCOMES & CONCLUSIONS

The project has been successful. By conducting facilitated workshops, with some work behind the scenes by various people including Louise Wood, Alison Medhurst and Emily Tee from DPI, Kym Ludvigsen, consultant, and Dave Robson, President of the Pyrenees Grapegrowers Group, all of the objectives of the project were achieved.

The following are some explanations as to how and why the objectives were achieved:

To trial and apply region based environmental benchmarks on vineyards in the Pyrenees and Grampians Regions, and identify what is "best practice" in these regions;

- A "Regional Environmental Best Practice for Viticulture" manual and a self-assessment tool were given to the groups at the initial "Introduction to Environmental Management" workshop in September 2004 (n.b. this workshop was not part of this project). At this workshop growers trialled using the manual and self-assessment tool and decided this was the EMS model they wished to adopt for their regions.
- As part of this project, the Yarra Valleys EMS model was adapted to suit these regions. This was done both in consultation with the group, and Kym Ludvigsen, who has many years of experience managing vineyards in these regions.
- The group worked through some sections of the manual and self-assessment questionnaire, interacting and discussing their answers and justifications with each other.
- It was decided that this will be a living document, that will be continually reviewed and updated if necessary, and will form the basis of future workshops.
- Final drafts of the manual and self assessment questionnaire were circulated to some members of the group, and they were asked to notify Louise Wood (DPI) of any amendments or suggestions they had.
- Once the final copies of the manuals (on CD) and self-assessment questionnaires have been circulated to a wider audience, some further workshops will be conducted for growers to work through them together.

To provide a system of accounting for environmentally sustainable best practice benchmarking that will in turn enable "clean, green" marketing claims to be made confidently

- The manual and self-assessment tool provide a systematic approach to record, evaluate and improve individual vineyard practices
- Raises the status of the region and backs up claims that the vineyards are" environmentally responsible".
- Adoption of the system will be good to advertise to prospective buyers (especially export)

To encourage vineyards and wineries to develop consistency and compatibility with the existing Shire values and legislation, landscape and to enhance a positive image of the industry to the community

- The values and legislation of the Shire were considered when developing the manual, however, due to the ever changing nature of the information it was decided not to include it in the manual, but have a reference as to where to access it.
- Growers believe having the system raises the status of the region as "environmentally responsible"
- Participants believe having the system should minimise planning restrictions and demonstrate low impact

To assist the Pyrenees and Grampians growers to understand how their activities may impact on the environment, and to develop practical action plans for implementing best environmental practices on vineyards;

- the self assessment questionnaire allows participants to work through all the sections of the manual and assess where they think they rate and whether it is a priority for them. There is then a section to develop an action plan covering:
  - Which issue they want to improve,
  - What is their current rating and the rating of their goals,
  - When and who will do it (and when it will be reviewed), and;
  - What they need in order to do it

Provide a template and practical experience in the application of environmental benchmarks that can be promoted for adoption by other wine grape growers;

- There are a large number of growers in the regions who have worked through the manual and self-assessment questionnaire as a group, and are familiar with the process. They will be able to teach and promote to others
- There has been promotion of the project and the manual (in its final draft form) among the group and outside the group already at various meetings.

Whilst undertaking the process, identify areas where more knowledge is required, and to provide training in these areas.

- The tools used in the project to identify areas where additional knowledge were highly effective, to the point where there is probably another 12-24 months worth of ideas for further workshops that have been identified.
- Working through the process enabled targeting of specific topics and areas, ensuring that anything run was could be tailored exactly to what the group requested and required.

7. RECOMMENDATIONS

It is recommended that the products of this project, the manual and self-assessment questionnaires be living documents and be regularly reviewed and updated if necessary. The idea of setting up an internet based system using the documents has also been discussed and the feasibility of this will be investigated.

It is also recommended that all growers in these regions adopt and actively promote the use of the manual and self assessment questionnaire not only to growers in their regions, but in other grape growing areas.



Harvesting (A. Hart, 2005)



Sunrise (A. Hart, 2005)

8. BUDGET RECONCILIATION

Please note: the budget had to be amended before the project began as the initial request was for $9,981.82, and the actual funding obtained was $7000. To allow for the $2981.82 shortfall it was decided to reduce the workshop presentation budget to $2,500, the printing budget to $1750 (although we did end up spending $2100 and producing more manuals) and find venues that didn't charge.

Budget	Funding required from GWRDC	Actual expenditure
Workshop presentation (4 workshops w/consultants & facilitator)	2500.00	2336.72
Venue hire	300.00	0.00
Workshop preparation and support	500.00	500.00
Speakers' transport and accommodation	1,000.00	1,003.28
Advertising and administration	200.00	200.00
Workshop materials (original budget was for 15 manuals @ $200. Ended up producing 20 manuals & cd's @ $105 each)	1750.00	2,100.00
Organisation of workshops	750.00	800.00
Total	**7,000.00**	**6,940.00**

9. REFERENCES

WFA, 2005, Wine & Environment. *What's going on in the Australian Wine Industry?* www.wfa.org.au

AWIS, 2005 FACT SHEET- *AWIS in Plain English!* www.wfa.org.au

10. LIST OF APPENDICES

Appendix 1 Example of a survey sent to Pyrenees and Grampians growers on the DPI Grapecheque mailing list

Appendix 2. Flier for the Vineyard Floor & Data Management workshop

Appendix 3. Flier for the water & irrigation management workshop

Appendix 4. Flier for the final evaluation workshop

Appendix 5. Evaluation of the vineyard floor & data management workshop

Appendix 6. Evaluation of the irrigation & water management workshop

Appendix 7. Final evaluation workshop feedback for the project

Appendix 8. Article about the Vineyard Floor and Data Management workshop published in the Bendigo Advertiser, September 14th, 2005

Appendix 1 Example of a survey sent to Pyrenees and Grampians growers on the DPI Grapecheque mailing list

WATER MANAGEMENT SURVEY for the PYRENEES/GRAMPIANS EMS PROJECT

Eleven people filled in the survey, one was a non irrigated vineyard therefore the only section filled out was the "soil" section

Name

Click on either the "currently do/already know", "would like to know more" or "irrelevant/not interested" boxes of the table to give Louise feedback so as to tailor the workshops/manual to suit this group.

Summary of Environmental Best Practice for **WATER MANAGEMENT** From the "Regional Environmental Best Practice for Viticulture - Yarra Valley" manual	Currently do/ already know	Partly do	Would like to know more	Irrelevant / not interested
Know your site properties				
Obtain a good knowledge of the soil characteristics in the vineyard.	4	4	5	
Assess the soil using a soil pit.	2	6	6	
Have a soil survey conducted by a registered soil surveyor.	3		7	
Developing your Irrigation System				
Use an accredited Irrigation Association of Australia specialist to design your irrigation system.	7		2	1
Ensure the irrigation system matches your soil type.	4	3	4	
Design the drainage system considering:				
- your soil types and depths and		2	6	2
- the distribution uniformity of the irrigation system.	2	2	4	2
Irrigation scheduling and application				
Schedule irrigation applications:				
- according to the defined yield and quality objectives of the crop;	4	2	4	
- using advanced irrigation scheduling tools (eg C-Probe, EnviroSCAN);	1	3	6	

Appendix 2. Flier for the Vineyard Floor & Data Management workshop

As part of the "Regional Environmental Best Practices for Viticulture for the Pyrenees and Grampians Regions Project"
you are invited to attend a:

Vineyard Floor Management & Data Management
Workshop



A workshop will be conducted at:

WHERE: Department of Primary Industries, Ararat
Old Shire Hall, Barkly Street, Ararat
(incorporating a vineyard visit in the morning to Bruce and Robyn Dalkin's Westgate Vineyard- Garden Gully & Westgate Rd's, Ararat)

WHEN: Friday the 2nd of September 2005,
From **9.00am** until approximately 4pm

PROGRAM

MORNING SESSION –
VINEYARD FLOOR MANAGEMENT- with Chris Penfold
(incorporating a visit to Bruce & Robyn Dalkin's Westgate Vineyard)



Chris is from the University of Adelaide and is a guru on "Vineyard Floor Management". Chris has expertise in organic / biodynamic and sustainable agricultural systems for grain and grape production , permaculture design and implementation, as well as Organic and sustainable broadacre farming systems and vineyard floor management

AFTERNOON SESSION-
DATA MANAGEMENT AND LEGAL REQUIREMENTS

Speakers will include:



Rachel Croucher-Griffin- Company owner/manager, chief programmer/developer of Arkive software (www.arkive.com.au) who has developed a simple software package that is designed to assist the profitable management of commercial vineyards. Rachael has her own vineyard in North East Victoria.

PAMAusvit Vincent Ball from Fairport, South Australia- will demonstrate PAM AusVit. The software is designed to assist in vineyard management decision making through the recording, analysis and reporting of critical activities, events and conditions within the vineyard.

Victorian Workcover Authority (to be confirmed)- a representative will cover legal requirements for keeping data, including Plant Regulations and Manual Handling Risk assessments, as well as Job Safety Analysis.

grapecheque

Victoria
The Place To Be

Please RSVP **by Tuesday the 30th** August to
Louise Wood, Grapecheque Facilitator
Ph (03) 5430 4670 or 0408 335 027
Email: louise.wood@dpi.vic.gov.au

Morning & afternoon Tea provided

Please BYO (or purchase own) lunch

Water and Irrigation Management Workshop

A workshop will be conducted at:

WHERE: Department of Primary Industries, Ararat
Old Shire Hall, Barkly Street, Ararat

WHEN: Friday the 11th of November 2005,
From **12.30pm SHARP** until approximately 4.30pm







grapecheque

Victoria
The Place To Be

The workshop will cover:

Who is looking after our water?

Ben Reeve, Mike Stephens and Associates (MS&A), will speak briefly over lunch about a project MS&A have been involved in with the Wimmera Catchment Management Authority. A series of informational material on water resource management has been developed, explaining the general roles and responsibilities of all the key players in water management across the region including Wimmera CMA, GWMWater, Local Government, Department of Primary Industries, Department of Sustainability and Environment and Parks Victoria.

Included in this package is frequently asked questions and their answers, plus information sheets on general water management, irrigation and farm water usage, environmental issues, and how people can get involved in improving waterways in the region.

Irrigation Management

We will then hear from **Dr. Ian Goodwin**, who is a Senior Irrigation Scientist focusing on viticulture (DPI Tatura). Ian has extensive experience, and a research background with water management in horticulture in Victoria. Ian's work has covered grapes and orchards, and he was involved with the team that developed regulated deficit irrigation (RDI) at Tatura.

Please RSVP **by Monday the 7th** November *(with any special dietary requirements)*, to
Louise Wood, Grapecheque Facilitator
Ph (03) 5430 4670 or 0408 335 027
Email: louise.wood@dpi.vic.gov.au
Or fax portion below back to (03) 5448 4982:

Lunch provided

Name/s: _____

Contact number/email: _____

Please notify of any special dietary requirements

Appendix 4. Flier for the final evaluation workshop

As part of the "Regional Environmental Best Practices for Viticulture for the Pyrenees and Grampians Regions Project"
you are invited to attend a:

Final "Regional Environmental Best Practices" Workshop

A workshop will be conducted at:

WHERE: Department of Primary Industries, Ararat
Old Shire Hall, Barkly Street, Ararat

WHEN: Friday the 2nd of December 2005,
From **2.30pm** until approximately 4.30pm





At this, the final workshop for the "Regional Environmental Best Practices for Viticulture for the Pyrenees and Grampians Regions Project" we will be:

- Reviewing and completing the self-assessment questionnaire
- Reviewing and distributing (in CD form) the manual
- Evaluating the project and discussing on future updating of the manual

We will also be having a "Grapecheque Christmas Breakup" afternoon tea!!



Please RSVP **by Wednesday the 7th**, to
Louise Wood, Grapecheque Facilitator
Ph (03) 5430 4670 or 0408 335 027
Email: louise.wood@dpi.vic.gov.au
Or fax portion below back to (03) 5448 4982:

grapecheque

Victoria
The Place To Be

Name/s: _____

Contact number/email: _____

Please notify of any special dietary requirements

grapechegue

Victoria The Place To Be

Department of Primary Industries

VINEYARD FLOOR AND DATA MANAGEMENT WORKSHOP FEEDBACK RESULTS, 2nd September 2005

There were eleven respondents.

What stood out for you in the workshop and why?

- some of the workcover issues
- visit to vineyard was excellent
- Practicality- very good ie. mid-rows, worksafe
- ARKIVE software- excellent!
- The vineyard floor management (gave a good range of ideas) and arkive information (a simple but concise recording system)
- Good spread of information
- Variety- data management
- Vineyard floor management
- Range of subjects and areas covered were current areas of interest for most vineyard owner/operators
- Information appropriate and useful for our sized operation and location
- Learning and reinforcing my knowledge about floor management and the importance of floor management and the options available.

What did you gain from attending this workshop? (please tick those that apply to you).....please give some examples if possible

	Number of responses	
New knowledge that is useful	7	• Data recording (x2) • Software-PAMAusvit & Arkive
New skill/techniques you can apply	5	• Confirms existing
A change of attitude	5	• Workcover • Reinforced need to change
Increased understanding of the issues	9	• Inter row management • Native species for cover crops/swards • Especially workcover
Increased understanding of other people's opinions	4	•
Time to think	3	•
Little or no benefit (if not why		•
Other	3	• Looking at software options • Exposed to a wide range of opinions by both presenters and the audience- very informative • Good opportunity to socialise/network

Will you do anything differently on your vineyard/at your winery as a result of attending the workshop?

- Not right away but in the new year
- Fine tuning
- Better spray records
- Better mid-row management and use the arkive data recording systems (after testing the demo)
- Research software
- Probably purchase software program
- I know more about worksafe issues and alternative weed control which will assist the management of our vineyard
- Look at establishing native grasses in one section of the vineyard

Are there any changes that could be made to the workshop?

- Two half days would have been good rather than one very intensive day
- Happy with the current format
- Would not have PAM Ausvit session- I think it was a bit too high level for this audience (?)
- Maybe a bit too long
- Very good
- Free lunch- this is a business presentation- charge everybody a fee- it is expected (?)
- No, I think it worked very well
- Good idea to ask participants regarding "questions I would like answered', but the workshop should close the loop on these questions (*n.b. it did but this person left early).* The participants could even be asked to supply questions prior to workshop to facilitate preparation (*which was also done- a survey was sent out, with room to comment!).* Use Bruce as a case study- theory session first then site visit (*which was also what we did- so I am assuming this person was late arriving too!)*

Are there any issues that have not been covered today that you wish to learn more about?, or do you have any suggestions for future events?

- Fungicide chemicals- toxicity, prices etc. are the new chemicals safer?
- Irrigation- more info (*which was the next workshop*)
- More on-site field trips
- I will have to think about this

Thank you very much for your attendance and feedback

P.T.O if you need more room

EVALUATION of the IRRIGATION AND WATER MANAGEMENT WORKHSOP (11/11/05)

(9 responses, 12 attendees)

PARTICIPANTS KNOWLEDGE/CONFIDENCE ABOUT IRRIGATION MANAGEMENT

Before	*After*	*Change*
1	6	5
3	5	2
6.5	8	1.5
4.5	8	3.5
2	5	3
4.5	6	1.5
5.5	9	3.5
4.5	6	1.5
5	7	2
Average 4	**Average 6.6**	**Average 2.6**

Participants were asked to rank themselves on a scale of 0-10, with 0 being little/no knowledge and 10 being lots. There was quite a range in knowledge and confidence within the participants. The participant who reported the greatest change went from a 1 to a 6, a change of 5 so that was fantastic. The average change was 2.5, which is quite a lot.

What stood out

- Pan evaporation volume
- Crop factor canopy 25%-50%
- Complexity of issue
- Need for soil moisture monitoring
- Need for good records
- Will have to closer into when I irrigate and for how long
- Excellent spreadsheet for irrigation and great to have it explained too
- The excel spreadsheet recording system
- Spreadsheets
- Spreadsheet presentation
- Ian's knowledge
- Good clear presentations

What will you do differently

- Not alot
- Soil moisture monitoring
- Work tables
- Install gypsum blocks
- Check pump capacities
- Investigate installation of new pump
- Go back over my irrigation management systems
- Look closer at my evaporation
- Lots of calculations!
- Nil
- Better timing of watering cycles
- Have more confidence managing our water
- Use Ian's spreadsheet
- Do more measuring in vineyard
- Use an evaporimeter

Changes to/lowlights of the workshop

- Very well done with a good speaker
- Format was good
- Seating arrangement was good
- Friday afternoon is a good time
- Fine
- None (x4)

Appendix 7. Final evaluation workshop feedback for the project

"Regional Environmental Best Practices for Viticulture for the Pyrenees and Grampians Regions Project"

Final evaluation workshop feedback, 2nd December, 2005

HIGHLIGHTS

- Has all been one big highlight
- Arkive software (some have purchased it)
- Workcover coming to speak (it is necessary!)
- Native inter-row vegetation research
- Water management with Ian Goodwin- he walked us through the complicated stuff
- Production of manual and questionnaire
- Excellent project management
- Good attendance and repeat attendance
- Selection of speakers- heard from 2-3 industry leaders
- Good having technical workshops
- Field visit

LOWLIGHTS

- Pity we didn't get the full amount of funding
- Grapecheque funding decrease
- Meeting schedule- may have been better a bit more spaced out, but also appreciate that speakers are not always available

WHAT WILL BE/HAS BEEN DONE DIFFERENTLY AS A RESULT OF THIS PROJECT AND ITS WORKSHOPS

- Reporting- will have a look at Arkive
- Have bought software
- Will obtain an update from workcover every 12 months
- Will investigate the use of native grasses more thoroughly
- Have established the undervine trial that Chris Penfold discussed, comparing native grass, mulch and herbicide
- Will use the manual

WHAT BENEFIT'S DO YOU SEE (or have seen) THIS PROJECT HAVING FOR THE REGIONS

- It provides a systematic approach to record, evaluate and improve individual vineyard practices
- Raises the status of the region and " environmentally responsible"
- Good to advertise to prospective buyers (especially export)
- Minimise planning restrictions and demonstrate low impact
- A valuable resource for the new grapegrower

Appendix 8. Article about the Vineyard Floor and Data Management workshop published in the Bendigo Advertiser, September 14th, 2005

DPI reports low levels of the disease



GOOD SOIL VITAL: Chris Penfold explains soil composition at Westgate vineyard. Pictures: DPI

EARLIER this month, staff from the Department of Primary Industries reported a few small isolated infestations of stripe rust in the north-central, north-east and irrigation areas at low levels of infection.

These have occurred in irrigated crops near Swan Hill and Boort, as well as in dryland crops near Cobram, Picola and Katamatite at less than one per cent infection.

All have occurred in crops rated moderately susceptible to susceptible to stripe rust.

There is no reason at this stage for major concern, as the vast majority of crops do not need spraying, although some helpful guidelines may be useful.

Unless the crop is rated susceptible or very susceptible, there is little evidence that spraying fungicides will be beneficial to yields in Northern Victoria.

Growers should consider whether or not to grow these varieties in the future.

If the crop is dryland and not rated moderately susceptible, susceptible or very susceptible with a yield potential of less than 2.5t/ha, then spraying is not the preferred option.

For crops of the same rating, but yielding more than 2.5t/ha with stripe rust now, it is suggested that an inexpensive fungicide be used to get through September, where the weather would still favour the development of the disease.

If the crop can get into late September/October with little infection, then there will be little yield penalty based on trial work, where the temperature and dry conditions do not favour the development of the disease.

For information, contact Dale Grey at DPI Cobram on 5871 0623 or Rob Fisher or Damian Jones at DPI Kerang on 5452 1266.

Agscene
with Daley Thompson

Department of PRIMARY INDUSTRIES
Department of SUSTAINABILITY and ENVIRONMENT

Vineyard floors

GRAPEGROWERS in the Pyrenees and Grampians regions are seeing the benefits of implementing environmental best practices for viticulture.

With the assistance of Department of Primary Industries Grapechoque facilitator, Louise Wood, growers have successfully obtained funding from the Grape and Wine Research and Development Corporation.

As part of the project, a workshop focused on vineyard floor management and data management was conducted recently.

"The 25 growers who attended were excited hear from Chris Penfold from the University of Adelaide discuss aspects of vineyard floor management," Ms Wood said.

"A visit to Westgate vineyard brought some of these management practices to life and included discussion on organic floor management, control of dominant weed species and the pros and cons of removing pruning from the vineyard."

For information, phone 5430 4444.

Elmore Field Days

WITH only three weeks to go, Elmore Field Days is fully booked for October 4, 5 and 6.

Now in it's 42nd year, the field days are a fun family day out, featuring the latest in farm machinery, rural products and services, recreational and leisure exhibits and home and garden products.

The Department of Primary Industries, Department of Sustainability and Environment, NCCMA and Parks Victoria will utilise one marquee at site 119.

This year, visitors are offered the chance to win a holiday, and just by visiting the marquee and entering the competition, they could win three nights' accommodation at Northey Lodge at Tidal River, at Wilsons Promontory National Park.



INFESTATION: Stripe rust in wheat