

Australian Government
Grape and Wine Research and Development Corporation

AWITC REGIONAL INNOVATION and TECHNOLOGY TRANSFER FORUM 2007: Bringing latest overseas sustainable technology innovation and research extension from the 13th AWITC to growers in wine regions

FINAL REPORT to

GRAPE AND WINE RESEARCH & DEVELOPMENT CORPORATION

Project Number: RT06/05-1

Project co-ordinators: **M. Bernard, K. DeGaris, K. Murphy**

Organisation: **Limestone Coast Wine Industry Council**
Sub-contracting Agency: **Faculty of Land and Food Resources, The University of Melbourne**

Date: **15 November 2007**

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15 November 2007

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Participating agencies

Adelaide Hills Wine Growers Association, Adelaide Hills Vineyard Contractors, Alpine Valley Vignerons, Barossa Winemakers, Brown Brothers, DPI Victoria-Grapecheque, DPI NSW, Geelong Wine Growers Assoc., Grampians Wine, Hardy Wine Company, King Valley Vignerons, Langhorne Creek Wine Industry Council, Limestone Coast Wine Industry Council, Lower Hunter Valley Vineyard Assoc., McLarenVale Grape, Wine and Tourism, Mornington Peninsula Vignerons, Mudgee Winegrape Growers Assoc., Pyrenees Grapegrowers and Winemakers, Yarra Valley Wine Growers Assoc., SARDI, Scholefield Robinson Horticultural Services, Vitisolutions Ltd., University of Melbourne: Faculty of Land and Food Resources and Dpt. of Zoology

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1.1 ABSTRACT

The AWITC Regional Innovation and Technology Transfer Forum 2007 consisted of 11 seminars conducted across SA (5), Victoria (4), and NSW (2). The seminars brought to growers latest, cutting edge overseas and Australian information in a 'ready-to-adopt' format on how to maximise natural biological control of pests and diseases in vineyards topical to advancing sustainable wine grape production in Australia. Information on research results, practical vineyard methods, agronomy application in Australian conditions, and on-costs savings and marketing advantages was provided. First-hand practical information was provided on a sustainable winegrape production certification scheme operating in USA, technical support required for the scheme, including Microsoft Access Database for recording pest and disease data directly in the field, its automatic graph/summary generation, allowing growers and wine companies to collate historical records of pest, disease and IPM data, comparing vine blocks, vineyards, and growing seasons, in a accessible time-saving format, useful to low input viticulture.

International and Australian speakers delivered the seminars: Prof Steve Wratten (National Centre for Advanced Bio-protection Technologies, Lincoln University, New Zealand), Dr Clifford Ohmart (Lodi Woodridge Wine grape commission, California, USA), Mr Tom Ayers (Adelaide Hills Vineyard Contractors), Dr Cate Paull (University of Adelaide/SARDI), Dr Martina Bernard (The University of Melbourne), Mr David Braybrook (Vitisolutions Ltd., Eastern Institute of TAFE). A DVD of S. Wratten's and T. Ayers' presentations was prepared, and distributed to participating regions. It is available for not-for-profit-distribution to the Australian wine industry.

1. 2 ACKNOWLEDGEMENTS

This project was a multi-regional initiative, involving many individuals, regional grower associations and companies, who all contributed to the organisation and success of the tour, contributing funding, and/or in kind support. Many thanks for making the tour a great success. Many thanks to the key speakers Dr Cliff Ohmart, Prof Steve Wratten, and Tom Ayers for their expertise, time, and their generosity. Their contributions far exceeded any remuneration provided by the project. Many thanks to Prof Rick Roush for helping to initiate this project, and to Rick and Anne Roush for hosting Cliff in Adelaide and Melbourne, Robyn Williams, Geoff Shields, Dr Cate Paull, David Braybrook, Kerry DeGaris, Kieran Murphy, Suzanne McLoughlin, Bill Hannaford and others at Barossa Winemakers, Roz and Peter Seppelt, James Hook, Lian Jaensch, Wendy Beatey, Stephen Lowe, Cheryl Lee, Tony Somers, Mary Retallack, Max Arney, Chris Meserle, Peter Hepworth Mark Walpole, and Catherine Anderson. Many thanks to Peter Kelly, Ashley Walker, and Ross Pearson for DVD preparation, and to Peter Kelly also for hosting speakers in Melbourne.

2. EXECUTIVE SUMMARY

New, 'ready to apply' overseas research and extension information from 13th AWITC conference workshop W35, on sustainable pest management was brought to regions in SA, Vic, NSW. Two international expert speakers traveled to the regions together with Australian speakers presenting seminars, and ensuring that growers unable to attend the 13th AWITC W35 did not miss out on new information topical to extending sustainable pest management beyond the current level. The information was extended to *c.* 600 growers/viticulturists/wine industry staff. A total of 11 seminars were conducted.

New overseas research was extended to growers by Prof Wratten, on how to improve LBAM biological control by providing critical, specifically selected, nectar resources to a key LBAM parasitoid wasp abundant in Australian vineyards (*Dolichogenidea tasmanica*) in every 10th mid row, to control LBAM without the need to use pesticides. First-hand Australian experience on practical use of buckwheat plants, to provide this nectar source was also extended to growers by an innovator/viticulturist/grower, Mr Tom Ayers (Adelaide Hills Vineyard Contractors), who shared his practical agronomy experience gained in piloting the new techniques in his vineyard in 2006-07, and provided a cost benefit analysis. In two regions in Victoria where speakers could not travel (Ararat and King Valley) these presentations were delivered by Dr M. Bernard.

This project has exceeded its target by providing Australian cost-benefit analysis of using buckwheat as a nectar source in vineyards; piloting to evaluate agronomic suitability of buckwheat in every 10th mid row indicated low per ha costs, which were returned by savings made from preventing the use of a single insecticide spray (see DVD for details).

New innovative overseas research on *Botrytis* bunch rot biological control was extended to growers by Prof Steve Wratten. Information was provided on how to control *Botrytis* bunch rot by breaking *Botrytis* lifecycle via mulching canes in the under-wine strip and in so doing, composting the *Botrytis* primary inoculum during its over-wintering on the vineyard floor.

Information was extended to growers by Dr Cliff Ohmart on 'best-practice' IPM and pest monitoring data base, IPM advisory service delivery, and certification scheme for sustainable wine grape production (www.lodirules.com) implemented by Lodi- Woodridge Wine Commission in California across its base of 750 members. The unique, practical and easy to use Lodi Microsoft Access pest/disease/PM monitoring database, not available elsewhere, was shown to growers and wine companies, communicating its advantages, including time-saving, direct field data entry, and automatic graph and summary functions.

A DVD of Prof Wratten's and T. Ayers' presentations (Appendix I) was made and was distributed to participating regions, DPI NSW, DPI Victoria Grapecheque, and to individual growers in the two NSW regions where the speakers could not travel. Further copies are available on request from M Bernard, for use on not-for-profit basis, for the purpose of extending sustainable practices to grape growers and wine companies in Australia, as per permission from Prof Wratten.

A list of growers/ viticulturists/ wine companies interested in piloting various new practices extended in this forum in 2007-08 or 2008-09, and who wish to receive further information, and potentially form a local implementation focus group was compiled (Appendix III).

3. BACKGROUND

Summary of background provided in the original application

Substantial economic and environmental, benefits can be gained by reducing the use of botryticides, and LBAM insecticides in vineyards by: (i) breaking the lifecycle of *Botrytis* bunch rot, by composting Botrytis primary inoculum on the vineyard floor in winter; (ii) providing supplementary food source (nectar) for key LBAM parasitoid wasps naturally present in Australian vineyards, and greatly increasing their capacity to control LBAM. Where a nectar food source was provided for beneficial parasitic wasps of LBAM, experience in New Zealand vineyards repeatedly showed that LBAM was controlled without the need to spray. These effective environmental practices are inexpensive, and provide economic benefits, together with the environmental and human health benefits gained by reduced pesticide use. They can also be legitimately used in marketing sustainably produced wine, and to potentially increase Australian access to environmentally conscious wine markets.

Short-term and long-term economic and environmental benefits also include:

(i) savings in pesticide product and application;

(ii) providing effective LBAM control after fruit set, when no sprays other than expensive BTs are registered. This is economically significant given the high cost of BT sprays, and the difficulty reported by many growers, in getting good spray results, often leading to more than one BT applications and given the risk of botrytis rot in LBAM damaged fruit.

(iii) Even greater economic benefit may arise from prevented use of LBAM insecticides, and their potential detrimental effects on the biological control of mealybug. Some novel LBAM insecticides are reported to be toxic to a considerable number of parasitoid wasp species, some lacewings and other key beneficials species, and may thus have an unintended secondary field effect on mealybug predators and parasitoids, potentially contributing to the recent major mealybug outbreaks in both Australia and New Zealand. Preventing the use of these sprays by effective biological control of LBAM can potentially have an added benefit of maintaining a robust natural biological control of mealybugs.

(iv) A successful IPM monitoring and advisory service was set up at Lodi (California) for 750 grape growers. More recently, Lodi growers developed this service into a *Sustainable Wine Grape Certification Scheme.* Australian growers had the opportunity to learn about this scheme directly from its director at Lodi. Long-term environmental and marketing benefits to the Australian wine industry can occur from adopting aspects of the scheme suitable to Australia.

(v) An excellent Lodi database for pest and disease and IPM monitoring supporting (iv) was shown to growers in Australia. If used here, such a data base could fill a current gap in pest, disease and IPM record keeping, and give growers the ability to compare vineyards, vine blocks, and seasons, and build comprehensive, easily accessible historical records, invaluable in long-term low input vineyard pest management.

Linkage to other GWRDC projects and wine industry initiatives

This initiative links and value-adds to all existing GWRDC projects and policy priorities aiming to increase sustainable wine grape production, sustainable pest and disease management (IPM), and reduce pesticide use. For example, to GWRDC VTS 06/01 (IPM Best Practice), and MU LTU 04/01 (Total system), by extending in face-to face-seminars new practices extended already by MU LTU 04/01 publications. Research indicates that such 'multi-tier' extension effort (including face-to face presentations) is required for optimal adoption of new technology into agricultural practice. This project also links to the Wine Industry Stewardship Program (WFA), by extending new practices not yet contained in that scheme, and by presenting to growers a successful USA voluntary certification scheme, and well-tested, practical pest and disease management software.

4. PROJECT OUTPUTS AND PERFORMANCE TARGETS

as per the original project application (all completed)

Outputs:

(1) To bring new, 'ready to apply' overseas research and extension information on sustainable pest management to the regions, by bringing to the regions two international expert speakers, and ensuring growers and viticulturists unable to attend the 13th AWITC conference workshop W35 (capacity 30) do not miss out on valuable new information delivered by experts in the field. This will extend the information to *c.* 600 growers, viticulturists, and wine industry extension staff.

(2) To extend latest overseas successful research on LBAM biological control, which allows for effective LBAM control without the need to spray pesticides.

(3) To augment the above overseas research information with first-hand Australian grower experience on its practical use in Australia, by bringing an innovator viticulturist / grower from SA (Mr Tom Ayers) to the regions, who used these new techniques in a 10 ha vineyard in 2006-07, to share his practical experience.

(4) To extend latest overseas research on how to successfully control Botrytis bunch rot by breaking the Botrytis lifecycle via composting primary inoculum during its over-wintering on the vineyard floor.

(5) To extend information on how successful pest and IPM monitoring and advisory services are organised and delivered to 750 growers by Lodi- Woodridge wine commission in California, and on how these 750 growers successfully certify and market their sustainably produced grapes under the 'Lodi Rules' Certification Scheme.

(6) To bring information to growers and viticulturists on a very successful and effective pest and IPM monitoring and advisory service organisation used in the USA, so that growers may consider the potential benefits to Australian wine grape production.

(7) To show growers and wine companies a Microsoft Access pest and disease and IPM monitoring data base developed by Lodi, with time saving direct field data input, and graph templates.

(8) To adapt regional seminars to the needs of each region in consultation with regional associations, responding to regional environment, practices, and level of understanding, in order to activate local interest in the new practices.

(9) Produce a DVD of Prof Wratten's and Mr Tom Ayers presentations, to show in Victorian and NSW wine regions where these speakers will not travel. DVD will be available free of charge and for free copy to Australian winegrape growers, wine companies, and Departments of Agriculture for the purposes of extending sustainable practices on not-profit basis. The not-for-profit free distribution and use are provided by Prof Wratten and Lincoln University, as part of this project.

(10) Produce a Final Report to GWRDC within 3 months of project completion, including a list of growers intending to pilot new practices in season I (2007-08). Produce a follow-up addendum to the Final report in the following season 2008-09 (funded via in-kind contributions), providing information on adoption of practices in the 2nd season after seminars.

Project Performance Targets:

11 seminars (see Results)

5. METHODS

The project delivered 11 seminars, adapted to regional needs, responding to local environment, practices, and level of understanding, to activate interest in adoption of new sustainable practices. List of growers interested in piloting new practices in 2007-08 or 2008-09, receiving more information, and potentially forming a regional focus group for implementing greater sustainability, was drawn up at each seminar. Seminars covered the following topics:

- Enhancing biological control ecosystem service: Adding 'snap' (shelter, nectar, alternative prey, pollen) to vineyards and bringing LBAM below economic threshold without the need to spray
  Prof. Steve Wratten (50 minutes)
- Australian experience 2006-2007 using buckwheat nectar plants to enhance parasitism of LBAM
  Tom Ayers (20-30 minutes)
- IPM in Californian vineyards: Monitoring and data management, featuring a database developed at Lodi-Woodbridge Winegrape Commission: Dr Cliff Ohmart (45 minutes)
- Certifying sustainably produced grapes and differentiating sustainable production in the market place. The Lodi-Woodbridge Winegrape Commission's Sustainable Winegrowing Program (www.lodirules.com) - how it evolved and what it has accomplished
  Dr Cliff Ohmart (45 minutes)
- Review regional IPM strategies and profile regional and site factors influencing the risks associated with key pests and diseases as part of a current GWRDC funded project
  David Braybrook (30 miutes)
- Realising the potential of native parasitoids for the control of LBAM:
  The beneficial species complex parasitising LBAM-research findings and practical vineyard implications from a four year project in Coonawarra vineyards, SA - Dr Cate Paull (45 minutes)
- Natural vineyard defenses against mealybugs and other pests in Australian vineyards:
  An overview of mealybug pests, control methods, predators and parasitoids and a summary of fungicides with a minimal effect on beneficial insects - Dr Martina Bernard (45 minutes)

6. RESULTS - LIST OF SEMINARS CONDUCTED

(1) 31/7 /07- 13th AWITC CONFERENCE – workshop W35: 55 participants;
Convener: Dr M Bernard
Speakers: Prof S. Wratten, Dr C. Ohmart
Dr C. Paull (information on LBAM parasitoid wasp species found in Limestone Coast region)
Dr M. Bernard (information on pesticide effects on pest natural enemies commonly found in vineyards)

(2) 1/8/07 CropWatch IPM Dinner, Adelaide
Convener: James Wright
Speaker: C. Ohmart: Lodi data base presentation and discussion

(3) 3/8/07 Barossa Seminar: c. 30 participants
Conveners: M. Bernard and B. Hannaford ; Speakers: S. Wratten, C. Ohmart, T. Ayers

(4) 3/8/07 McLaren Vale/Adelaide Hills/Langhorne Ck/Fleurieu Seminar c. 50 participants
Convener: James Hook; Speakers: S. Wratten, C. Ohmart, T. Ayers
A grower dinner was also attended by speakers, giving growers an opportunity to further talk to speakers.

(5) 6/8/07 Limestone Coast Seminar, c. 40 participants

Convener: Kerry DeGaris; Speakers: S. Wratten, C. Ohmart, T. Ayers

(6) 7/8/07 Yarra Valley/Mornington/Gippsland/Macedon Ranges/Sunbury Seminar c. 40 participants;
Conveners: Dr M. Bernard, Kieran Murphy (DPI Victoria Grapecheque)
Speakers: S. Wratten, C. Ohmart, T. Ayers, D. Braybrook

(7) 8/8/07 Ararat/Geelong Seminar c. 65 participants
Convener: K Murphy
Speakers: C. Ohmart, M Bernard (presenting T Ayers' and S Wratten's work)
D. Braybrook (presenting a report on GWRDC IPM survey project conducted in the region)

(8) 9/8/07 Lower Hunter Valley Seminar: c. 50 participants
(9) 10/8/07 Mudgee Seminar: c. 50 participants
Convener: Tony Somers; Speaker C. Ohmart

(10) 13/8/07 N-E Victoria Joint Seminar: c. 40 participants
Convener: K Murphy; Speakers: C. Ohmart, M. Bernard (presenting T Ayers' and S Wratten's work)

(11) 7/8/07- University of Melbourne Seminar (Faculty of Land and Food Resources):
Successful knowledge transfer in agriculture and horticulture: The Lodi experience
Convener: Rick Roush, Speaker: C. Ohmart

7. CONCLUSION

All outcomes and performance targets were successfully completed. The project was extremely well received in the regions, and resulted in many growers wishing to pilot the use of buckwheat and several other nectar plants in Australian vineyards, learn new skills for efficient pest and beneficial insect monitoring, and participate in developing an Access Database for this purpose in Australia. List of growers interested in piloting new practices (Appendix III).This project exceeded its targets by providing an Australian cost-benefit analysis of using buckwheat as a nectar source in vineyards (see DVD).

8. RECOMMENDATIONS

(1) That evaluations of buckwheat, Phacelia, and alyssum culture methods (extending work done by Tom Ayers, Adelaide Hills) be undertaken in several different Australian wine regions, to document minimal seeding and water requirements per minimal sufficient nectar production: i.e. optimising plantings for drought conditions, to enhance uptake by other growers interested in utilizing nectar plants.

(2) That an evaluation survey of beneficial insects attracted to buckwheat and Phacelia nectar plants be undertaken in several Australian wine regions (where growers are interested in piloting nectar plants), to complement 12 yrs of New Zealand research on this topic with data under Australian conditions.

(3) That GWRDC and other agencies jointly undertake the exploration and comparison of Australian native plants to buckwheat nectar quality (the current 'gold standard'), using plants suitable for vineyards, orchards and vegetable crops as headland/ windbreak plantings, and midrow/ under-vine plantings. (Supply of the 'right type of nectar' has a proven potential to maximise biological control of LBAM from NZ vineyards, lettuce crops in California, and other crops, reducing the need for insecticides).

(4) That an extension project be undertaken in interested regions, extending new information on pest, disease and beneficial monitoring, developing and piloting a simple, effective and highly practical Access Database Module for pest management (currently not available in any commercial wine industry databases), to allow time saving via direct field data input, automatic generation of summaries and graphs. The database could potentially also be marketed in other horticultural crops in Australia, filling a niche market, and aiding adoption of sustainable pest management.

Appendix I: STAFF - Regional Forum Organising Committee - all contributions 'in kind'

Kerry DeGaris, Limestone Coast Wine Industry Council, Technical Officer Hardy Wine Company
Martina Bernard, Research Fellow, University of Melbourne
Kieran Murphy, DPI Victoria Grapecheque Facilitator
Tom Ayers, Adelaide Hills Wine Growers Association, Adelaide Hills Vineyard Contractors
Bill Hannaford, Chair Tech. Committee Barossa Winemakers, District Viticulturist Yalumba
James Hook, Executive officer, McLarenVale Grape, Wine and Tourism
Lian Jaensch, Executive Officer, Langhorne Creek Wine Industry Council
Wendy Beatey, Executive Officer, King Valley Vignerons
Stephen Lowe, President King Valley Vignerons
Cheryl Lee, Executive Officer, Mornington Peninsula Vignerons
Tony Somers, District Viticulturist, DPI NSW
David Braybrook, Vitisolutions Ltd., Lecturer- Eastern Institute of TAFE
Mary Retallack, Scholefield Robinson Horticultural Services

Appendix II: DVD and INTELLECTUAL PROPERTY

Material extended by international speakers remains their sole intellectual property. A DVD has been prepared as part of this project. The material within the DVD remains the sole intellectual property of Prof Steve Wratten and Tom Ayers. However, both speakers have allowed for not-for-profit extension use of the DVD by growers within the Australian wine industry. DVD copies are available on cost-recovery basis from Martina Bernard.

Appendix III: Feedback & List of growers interested in piloting new practices

Workshop W35 (13th AWITC) rated among top 12 most subscribed at the conference (The Australian and New Zealand Wine Industry Journal, 2007, Vol 22 (3), and positive feedback was received at seminars across the regions. List of growers interested in piloting new practices in 2007-08 or 2008-09, receiving more information, and potentially forming a regional focus group for implementing sustainable practices:

Workshop W35- 13th AWITC		
Learning how to monitor pests and beneficials better, using a purpose-built Access Database with palm pilot direct field entry	Piloting and more information on using nectar plants (buckwheat, Phacelia, or white alyssum) in 2007-08 or 2008-09	Piloting and more information on mulching for the control of botrytis bunch rot
Jeremy Cass PO Box 355, Yenda, NSW 2681 David Batt - 0414 521 037 davidb@victormedical.com.au Loenard Russell leonard@watershedwines.com Geraldine Colombo (Tasmania) 0427 310 000 Larissa Harris larissa.haris@selwyn.com.au Clare Lawson (EEMuir)- 0437 855 848 Prue Henske - 08 8564 8223 and Barossa Vit Tech Group Derek Hooper - 08 8768 5053 dhooper@capejaffawines.com.au	Fiona Wigg - 03 5728 2810 Luke Jolliffe (Forest Hill Vineyard, WA) - 0427 087 785 Mathew Barry (Mount Avoca) - 0417 327 527 David Batt - 0414 521 037 davidb@victormedical.com.au Jim Sias (USA) - 1-212-242-2414 Prue Henske - 08 8564 8223 Loenard Russell leonard@watershedwines.com Paul Townsend - 0429 432 631 Brett Lovell (NSW) - 0407 147 210 brett.lovell@rotnerwood.com.au Derek Hooper - 08 8768 5053 dhooper@capejaffawines.com.au	James McGlade (Yarra Valley) - 03 9739 1761 Mike Peterkin - 0407 474808 Mark Bahen - 0419 988 480 Mike Harns - 0417 846 225 Mathew Barry (Mount Avoca) - 0417 327 527 Luke Jolliffe - 0427 087 785 Jim Sias (USA) - 1-212-242-2414 Clare Lawson - 0437 855 848 Prue Henske - 08 8564 8223 David Batt - 0414 521 037 davidb@victormedical.com.au Loenard Russell leonard@watershedwines.com Paul Townsend - 0429 432 631 Ben Sayer ben@wereestate.com.au Brett Lovell (NSW) - 0407 147 210 brett.lovell@rotnerwood.com.au Derek Hooper - 08 8768 5053 dhooper@capejaffawines.com.au

Learning how to monitor pests and beneficials better, using a purpose-built Access Database with palm pilot direct field entry		
Knox Seminar	**N-E Vic Seminar**	**Ararat Seminar**
Laurence Tedesco- elgee@pac.com.au Jo-Ann Jackson - 0407 811 002- jjackson@excelior.com.au Margaret Van Der Meulen -59642622 margaret@sevilleestate.com.au Stuart Sissins- 0402 246 580- Tarrawarra Estate Andrew Smith 0408 319 339 Darren Cribbes – 0400 600 556 – Nexus Agronomy	Dan Crane dcrane@allsaintswine.com.au Catherine Anderson cjanderson@brown-brothers.com.au Matt McAlleer msmcaleer@brown-brothers.com.au Tim Long TimLong@bigpond.net.au Graeme Ray – Boggy Creek Vineyards, Myrrhee Neville Bussell nN Bussell@bigpond.com David Marples gracebrook@bigpond.com	sean.lowe@bluepyrenees.com.au philc@hangingrock.com.au Damien Lawrey – damien@clydepark.com.au John Heitmann- 0417 303 564 john@suttongrangewines.com Rachel Ashley- rachel.ashley@fostersgroup.com Victoria Leeke – 0409 556 526 victoria.leeke@fostersgroup.com Neil Billett – 76 Old Brewery Rd, Ararat 3377 Chandra Ball – 0400 936 184 cball@ruralfunds.com.au Corey Hope- 0400 155 715 coreyH@Taltarni.com Robert John – 0417 313 056 robertjohn@hotmail.com
Piloting and more information using nectar plants (buckwheat, Phacelia, or white alyssum) in 2007-08 or 2008-09		
Jo-Ann Jackson – 0407 811 002- jjackson@excelior.com.au Damien deCastella- 0417 327 570 (Fosters) Selma (?- surname)- 03 598 31 858 Stuart Sissins – 4020 246 580 - Tarawarra Margaret Van Der Muelen- 59642622 (Seville Estate) John Runting – 0417 356 364 (WineNet) Xavier Mende- 0417 307 257 Andrew Smith – 0408 39 339 Darren Cribbes – 0400 600 556 – Nexus Agronomy	Brett McClen brett@rutherglenestates.com.au Dan Crane dcrane@allsaintswine.com.au Nick Brown nbrown@allsaintswine.com.au C. Anderson cjanderson@brown-brothers.com.au Graeme Ray – Boggy Creek Vineyards, Myrrhee Neville Bussell N Bussell@bigpond.com David Marples gracebrook@bigpond.com Paul Geddes (?) skwines@bigpond.net.au S+K Wines PO Box 15 Rutherglen	Lucas Grigsby 0431 186 996 John Heitmann- 0417 303 564 john@suttongrangewines.com philc@hangingrock.com.au Lee Evans – 0438 661273 kurabana@bigpond.com Victoria Leeke – 0409 556 526 victoria.leeke@fostersgroup.com Rachel Ashley- rachel.ashley@fostersgroup.com Chandra Ball – 0400 936 184 cball@ruralfunds.com.au Neil Billett – 76 Old Brewery Rd, Ararat 3377 Simon Glover – 0429 311 060 moonstruck3@optusnet.com.au Corey Hope- 0400 155 715 coreyH@Taltarni.com Robert John – 0417 313 056 robertjohn@hotmail.com Damien Lawrey – damien@clydepark.com.au
Piloting and more information on mulching for the control of botrytis bunch rot		
Laurence Tedesco- elgee@pac.com.au Jo-Ann Jackson – 0407 811 002- jjackson@excelior.com.au Selma (?- surname)- 03 598 31 858 Stuart Sissins – 4020 246 580 -Tarawarra Margaret Van Der Muelen- 59642622- margaret@sevilleestate.com.au Andrew Smith – 0408 39 339	Dan Crane dcrane@allsaintswine.com.au Nick Brown nbrown@allsaintswine.com.au C. Anderson cjanderson@brown-brothers.com.au Graeme Ray – Boggy Creek Vineyards, Myrrhee Neville Bussell N Bussell@bigpond.com David Marples gracebrook@bigpond.com	

Learning how to monitor pests and beneficials better, using a purpose-built Access Database with palm pilot direct field entry		
Barossa seminar	**McLaren Vale seminar**	**Limestone Coast seminar**
Roz Seppelt - Peter Seppelt Grand Cru Estate 0427 975 311 John Peet 0418 837 013 Trevor Fromm 0438 765 938 Prue Henschke 8564 8223 Tony Gerlach Pirsa – 8568 6406, 0419 863 537 Mike V. Smith (?) 8568 5386 Lisa Buttler 0413 011 582 Geoff Knights 8562 2744	Jim Zerella zerellavineyard@bigpond.com Glen Reynolds gncjreynolds@bigpond.com S. Young smymclarenrange@dodo.com Leigh Gawith Richard McGeachy richard.mcgeachy@landmark.com.au Annette and Dave Innes annetteand dave@iinet.net.au John Hilditch jhilditch@internode.on.net	Louise Dickens 0417 852 248 duts@limestonecoast.net Peter Bird 0407 854 070 peter.bird@hardywines.com.au Hans Loder 0417 843 355 hloder@wingara.com.au Suzanne McLoughlin 0412 859 882 suzanne.mcloughlin@fostersgroup.com
Piloting use of nectar plants (buckwheat, Phacelia, or white alyssum) in 2007-08 or 2008-09		
Roz Seppelt - Peter Seppelt Grand Cru Estate 0427 975 311 Trevor Fromm 0438 765 938 John Peet 0418 837 013 Prue Henschke 8564 8223 Nick Riebke 0437 628 341 Amanda Mader 0437 817 101 amader@yalumba.com Jana Shepherd 0413 884 677 jana-sheperd@fostersgroup.com Mike V. Smith (?) 8568 5386 Tony Gerlach Pirsa – 8568 6406, 0419 863 537 Mary Retallack – Scholefield Robinson mary@srhs.com.au M. Murzberg Kammurz@bigpond.com Geoff Cook – Great Southern 0407 717 509 Adrian Hoffmann dimchurch@bigpond.com	D. Neyle dneyle@lobethalwood.com.au David McQuinn david.j.mcquinn@au.dupont.com Nick Baverstock nick.baverstock@hardywines.com.au Chris Burgan csburgan@bigpond.com Matt Hatwell matt@chalkhill.com.au Jim Zerella zerellavineyard@bigpond.com Glen Reynolds gncjreynolds@bigpond.com S. Young smymclarenrange@dodo.com Leigh Gawith Richard McGeachy richard.mcgeachy@landmark.com.au Annette and Dave Innes annetteand dave@iinet.net.au John Hilditch jhilditch@internode.on.net	Louise Dickens 0417 852 248 duts@limestonecoast.net Suzanne McLoughlin 0412 859 882 suzanne.mcloughlin@fostersgroup.com Peter Bird 0407 854 070 peter.bird@hardywines.com.au Hans Loder 0417 843 355 hloder@wingara.com.au
Piloting mulching for the control of botrytis bunch rot		
Roz Seppelt - Peter Seppelt Grand Cru Estate 0427 975 311 Trevor Fromm 0438 765 938 John Peet 0418 837 013 Prue Henschke 8564 8223 Nick Riebke 0437 628 341 Amanda Mader 0437 817 101 amader@yalumba.com Jana Shepherd 0413 884 677 jana-sheperd@fostersgroup.com	Daniel Lawrence daniel@paxtonvineyards.com David McQuinn david.j.mcquinn@au.dupont.com Nick Baverstock nick.baverstock@hardywines.com.au Chris Burgan csburgan@bigpond.com Matt Hatwell matt@chalkhill.com.au Jim Zerella zerellavineyard@bigpond.com Glen Reynolds gncjreynolds@bigpond.com S. Young smymclarenrange@dodo.com Leigh Gawith Richard McGeachy richard.mcgeachy@landmark.com.au Annette and Dave Innes annetteand dave@iinet.net.au	David Herbert 0408 849 080 herbert@herbert.com.au Jarred Simcock 0438 198 100 jarred@southernsoils.com.au Sue Giles 87 667 024 Grant Oschar 0419 031 137 grant.oschar@rymill.com.au Richie Buttler 0410 540 224 richie.buttler@fostersgroup.com Belinda Thomson 03 557 82230 belinda@crawfordriverwines.com Ben Dowling 0409 104 229 microfarm@bigpond.com Neil Jones 8769 6141 hrvineyard@bigpond.com Keith Jarrad 8769 6141 hrvineyard@bigpond.com Robert Bittner 0408 843 475 robert.bittner@hardywines.com.au KerryDeGaris Hardy Wine Co 0418 817 344 Louise Dickens 0417 852 248 duts@limestonecoast.net Suzanne McLoughlin 0412 859 882 (Fosters) Peter Bird 0407 854 070 peter.bird@hardywines.com.au Hans Loder 0417 843 355 hloder@wingara.com.au

Appendix IV: REFERENCES underpinning extended information

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