DEVELOPMENT AND IMPLEMENTATION OF REGIONAL BIOSECURITY PROTOCOLS FOR WINE GRAPE GROWERS IN GREATER VICTORIA



FINAL REPORT to

Grape and Wine Research and Development Corporation

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DEVELOPMENT AND IMPLEMENTATION OF REGIONAL BIOSECURITY PROTOCOLS FOR WINE GRAPE GROWERS IN GREATER VICTORIA

A final report on project number DPI 08845

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1. ABSTRACT

This final report presents the activities and results of regional workshops held during 2002 and 2003 in the wine regions of "Greater Victoria". The workshops aimed to develop region specific biosecurity protocols to reduce the risks of introduction of new pest and disease threats, and to support those protocols through grower initiated communication activities. The protocols are also supported by upgrades to regional signs at the boundaries of phylloxera infested, risk, or exclusion zones. The biosecurity protocols were initially focussed on grape phylloxera, and are most relevant to those pests and diseases that were specific to grapevines. Initial outcomes of the work included the development of checklists by grower associations, and other communication activities to reinforce the protocols by individuals, grower associations, and service providers.

2. EXECUTIVE SUMMARY

This project was commissioned in 2002 by the Greater Victoria Wine Grape Industry Development Committee with the objective of increasing the biosecurity of viticulture in "Greater Victoria". The main activities of the project were the development of region specific biosecurity protocols to reduce the risks of introduction of new pest and disease threats, and improvements to the signs marking the borders of phylloxera exclusion zones and phylloxera infested zones.

The biosecurity protocols were developed at interactive workshops in seven different wine regions of Greater Victoria. Not included was the north east region of Greater Victoria where regional protocols were already in place, and Geelong, since the Geelong Grapegrowers Association already had a funded biosecurity project underway.

A total of 13 workshops involved members from 18 regional wine grape associations together with many regionally based service providers to the wine industry. The biosecurity protocols were initially focussed on grape phylloxera, and refined and tested in hypothetical scenarios against other potential pest and disease threats. The protocols were most relevant to those pests and diseases that were specific to grapevines.

The protocols motivated actions by individuals, regional wine grape associations, and service providers, to implement appropriate procedures defined in the protocols. Many of the wine grape growers said they would erect signs at the entrance to their vineyards, and provide cleaning and disinfestation facilities for visitors to vineyards. Some of the wine grape associations undertook to develop information kits and communication plans to inform service providers and local Governments of quarantine issues. The Yarra Valley Association developed check lists for use by its members. The service providers that attended the workshops said they would develop or refine operating procedures to reduce the risks of transfer of pests or diseases during their business operations.

The Department of Primary Industries, Victoria, has identified the priorities for improving signs marking the current phylloxera infested zones, and has agreed to re-position 15 signs prior to vintage 2004. It has also installed signs to show the boundaries of the new Henty-West Wimmera Phylloxera Exclusion Zone (PEZ).

In September 2003, representatives of most of the regional associations were surveyed by telephone, to gain an early assessment of the impact of the project. This survey (six months following completion of the last workshop) is reported in Table 5 under Section 8 below - *Workshop and project evaluation.*

The preliminary outcomes of this project, as at September 2003, are:

- Yarra Valley Winegrowers Association has developed and strongly promoted checklists for grower use in evaluating their own biosecurity risks, and in making sound decisions to reduce the risks. There is the potential to use the checklists as templates in other regions.
- Mornington Peninsula Vignerons Association is adopting the Yarra Valley checklists as a template for design of checklists highly relevant to the Mornington Peninsula. Also a Community

Partnership initiative, in which the industry is working closely with local residents, EPA and the Shire to address concerns about vineyard/winery operations, is being widened to provide advisory information (including biosecurity issues) for newcomers to grape growing.

- Gippsland Grapegrowers and Winemakers Association is expected to endorse the implementation of checklists using the Yarra Valley checklist template.
- The installation of Phylloxera Exclusion Zone (PEZ) signage in the Henty region makes clear the phylloxera free status of the Henty region, and provides Henty growers with opportunities to explore wine grape sales with South Australian buyers. The Association has not yet assessed the significance of this opportunity.
- The Pyrenees and Grampian Associations are currently surveying members to ascertain the level of support for conduct of a survey of all vineyards in these regions, preparatory to raising the region's status from a Phylloxera Risk Zone (PRZ) to PEZ. Good progress has been made in securing some of the funding needed to carry out the survey.
- The Sunbury Vignerons Association is actively progressing with the development of protocols covering local vineyards and wine festivals, and has implemented a temporary biosecurity protocol across the region.

In other regions, the impact to date appears to be increased awareness of biosecurity issues together with some introduction by individual growers of basic cautionary procedures on their vineyards (eg. restriction of visitor movement, disinfection of footware). In these regions, no collective action has yet been made in the implementation of new or improved region-wide protocols.

In light of this result, the managers of the current project have agreed to:

- Circulate the model biosecurity protocols (Table 3) for PRZ wine regions in Greater Victoria
- Develop and circulate to Phylloxera Infested Zones (PIZ) a model protocol suitable for wine regions in phylloxera infested zones
- Request the relevant Grapecheque facilitators to follow up with Associations with an offer of assistance in refining and implementing the model protocols (or checklists if preferred).
- Seek DPI agreement for putting the model biosecurity protocols and the Yarra Valley checklists on the DPI website along with some explanatory information.

3. INTRODUCTION

Exotic pests and diseases are a potential threat to the production of wine grapes. Where quarantine restrictions are imposed, the business activities of growers are affected because of restricted access to markets and services, and additional costs incurred in meeting disinfestation requirements. At the national level there are quarantine restrictions and protocols to manage risks from incursions by a range of exotic pests and diseases that affect grapevines, including Pierce's disease, Tetranychid mites, and grape leafhoppers. State regulations exist to contain grape phylloxera.

Within Australia, grape phylloxera has been contained within Phylloxera Infested Zones (PIZ), through restrictions on movement of grape material from these zones. This policy that has worked effectively because phylloxera has limited powers of natural dispersal, it only lives on grapevines, and it is relatively easy to detect. The quarantine policy has been reinforced by the existence of Phylloxera Exclusion Zones (PEZ), which restrict the movement of grape material into those regions. Adjacent to these zones are "Phylloxera Risk Zones" (PRZ), which have had no specific procedures to prevent entry of grape material or phylloxera into the zone, and limited ability to trade into the Phylloxera Exclusion Zones. Most of the "Greater Victoria" wine regions are Phylloxera Risk Zones, they also include Phylloxera Infested Zones. This project concentrated on biosecurity issues in the Phylloxera Risk Zones, as there are existing protocols and regulations that apply to the Phylloxera Infested Zones.

The long term options for wine grape growers in Greater Victoria are to protect their vineyards against phylloxera through the use of phylloxera resistant rootstocks, and through biosecurity protocols, to avoid phylloxera infestation by reducing the risks of introducing phylloxera to their vineyard and region. The

biosecurity option has the added advantages of acting against other vine related pests and diseases (eg. dagger nematodes), and increasing the potential for trade with other wine regions.

Wine grape growers in "Greater Victoria" voted to raise levies for regional research and development in 2000, resulting in the formation of the Greater Victoria Wine Grape Industry Development Committee (GVWGIDC). In February 2002, the growers rated regional biosecurity protocols as one of the main priorities for investment of their levy funds. Subsequently, the current project team was commissioned to undertake the work.

4. PROJECT SPECIFICATION AND DELIVERABLES

The intent of this project was to develop regional protocols that would help prevent the introduction of grape phylloxera, and other pest or disease threats, to wine grape regions in "Greater Victoria" (i.e. all of Victoria except the irrigated vineyards in north west Victoria). These areas are mostly designated as "Phylloxera Risk Zones", but include the newly proclaimed Henty phylloxera exclusion zone, and areas in central Victoria that are close to, or include, "Phylloxera Infested Zones". Thus, the protocols that were developed in this project are similar in purpose to those that apply to "Phylloxera Exclusion Zones". While phylloxera was a major biosecurity issue, the project was also charged with developing protocols that could assist in preventing or managing incursions by other pests or diseases.

The regional protocols were to be developed and implemented by regional grape growers (and other service providers to the wine industry). The process of developing the protocols was intended to be highly interactive and inclusive, to increase the capacity of regional groups to work together effectively in managing collective problems. The project was also required to further define phylloxera exclusion and infested zones in Victoria by development of appropriate signage at a regional and vineyard level.

The specific deliverables of the project, and the achievement of these, were:

1. The project was to be developed and submitted to the Greater Victorian Wine Grape Industry Development Committee during April 2002, and the project would commence in May 2002. (Achieved 3 May, 2002).

2. Materials and logistics for regional workshops were to be in place by June 2002. This included preparation of up to 10 fact sheets, workshop exercises, bookings, publicity, and organisation required for the initial workshops planned for June 2002. (Achieved 15 June 2002).

3. Workshop and feedback sessions. Workshops were to be held in Henty, Yarra Valley, and Heathcote by June 30, 2002; and then in up to five other regions in 2002/03. Each workshop to be followed by a feedback session to ensure that participants had the opportunity to modify protocols, and discuss implementation. (Workshops were held in three locations in June 2002, and in four other locations in 2003).

4. Phylloxera zones: signs and communication activities. A policy, action plans, and resource needs were to be documented, to establish the operating principles for upgrade of existing zones, and for future changes in the status of particular regions. Signs were to be placed on appropriate access roads at the boundaries of phylloxera exclusion or phylloxera infested zones, and communication strategies devised and implemented in association with protocol development. (A draft policy, and action plans were documented, and signage established at the boundaries of the Henty exclusion zone).

5. Final report and evaluation. This document is the final report for the project. Evaluation has been carried out on workshop performance, reactions of stakeholders to regional protocols and zones, and on the broad outcomes of the project and communication processes. The evaluation is based on Bennett's hierarchy.

5. REGIONAL BIOSECURITY WORKSHOPS

Regional biosecurity protocols were developed in two structured workshops, carried out in each of seven different locations (except in the Goulburn valley, where only one workshop was required due to previous work on protocol development). The locations were chosen as convenient centres to enable attendance by representatives of one or more district wine grape grower associations, together with service providers to those industries (Table 1).

Table 1. Location and dates of regional biosecurity workshops.

Associations represented	Location	Dates
Heathcote, Colbinabbin	Heathcote	24 June 2002 24 October 2002
Henty, Great Western	Henty	28 June 2002 2 September 2002
Yarra Valley, Diamond Valley	Yarra Glen	25 June 2002 31 October 2002
Pyrenees, Grampians, Bendigo, Maryborough	Avoca	26 November 2002 17 February 2003
Goulburn Valley, Victorian High Country, Strathbogie Ranges	Mitchelton	2 December 2002
Mornington Peninsula, Gippsland	Dromana	3 December 2002 18 February 2003
Macedon Ranges, Sunbury, Ballarat	Trentham	4 December 2002 28 February 2003

The interactive workshops in each region were intended to give hands on involvement in decision making, through a process of confrontation with, and resolution of, region-relevant biosecurity scenarios. The workshops used participatory active learning techniques, together with feedback and review sessions, to ensure the direct input of regional growers, and involved service organisations that are critical to implementing and maintaining biosecurity.

5.1 Phase 1 workshops

The format of the first workshop at each location was intended to facilitate the development of draft biosecurity protocols for grape phylloxera, and then to test the relevance of these protocols against examples of other pest or disease threats. Typically, these workshops involved:

An *Introduction* involving:
- Provision of information kits (including technical fact sheets) to workshop participants
- Welcome by local GVWGIDC representative to context the workshop
- Facilitated exercise to establish attitudes to different biosecurity risks

Presentation and discussion of technical information:
- Quarantine protocols, phylloxera zones and signage
- Phylloxera biology

Group discussion and analyses of a hypothetical scenario based on phylloxera:
- Main pathways for phylloxera invasion listed in a hazard analysis table

Testing and validation of protocols against other pests and diseases:
- Pierce's disease, glassy winged sharpshooter, fire ants, grapevine leaf rust, dagger nematodes, Pacific mite

Feedback and evaluation:
- Feedback on validation of protocols
- Workshop evaluation

5.2 Phase 2 workshops

Follow up workshops were designed for reflection and review of the draft regional protocols, and to facilitate implementation of the protocols by wine grape growers and their service providers. The typical agenda was:

Introduction and welcome by a Greater Victoria Wine Grape Industry Advisory Committee (GVWGIDC) representative

Reflection on draft protocols
- Summary of the evaluation and feedback from the previous workshop
- Planning to implement the draft protocols

Role play exercise to test the validity of the protocols
- Consolidation of the group response on practical management of potential threats to standard protocol
- Feedback from groups
- Establish which protocols or actions can be implemented by individuals
- What protocols/actions need to be at a regional level
- What actions is required by external organisations (eg DPI)

Commitment to action, and group review/discussion

Workshop evaluation

5.3 Workshop outcomes

The outcomes of the different workshops, as documented at the workshop, are listed in the relevant appendices (see Appendices 1-13). However, there were common and consistent approaches to the development of the regional protocols across the different workshops.

Many different pathways for introduction of pests and diseases were identified, but in the development of protocols, the pathways that were regarded as priorities by all groups were:

1. *Grapevines or parts thereof (particularly planting material).* The groups clearly recognised that grape phylloxera and other vine pests or diseases were most likely to be spread from other vineyards or vine nurseries. This threat was concerning because of the continued development of new vineyards, in many cases by people with no obvious links to industry organisations, or knowledge of biosecurity issues. It was also recognised that the protocols were likely to be effective against a range of pests or diseases that were specific to grapevines, but not against those that had a range of host plants.
2. *Machinery, bins and implements used in vineyards*. The main concern was about equipment used to harvest and transport grapes, particularly wine bins. This concern was associated with the lack of information about where bins and harvesting machinery had been operating previously, and the application of reliable disinfestation procedures in frantic harvest periods. Also, equipment used by contractors operating in vineyards or across different enterprises was regarded as a potential risk, where the operators were either not informed, or poorly informed, about cleaning procedures and disinfestation protocols.
3. *People*. The understanding that insects, disease spores etc could be carried on people moving between vineyards motivated workshop participants to consider the risks from professional service providers (picking or pruning teams, fruit samplers, monitoring services), tourists and other visitors.

The protocols to cope with these main risks were based on the principles of informing stakeholders about the risks, preventing access to avoid the risks, techniques to reduce the risk by cleaning or disinfestation, and assurance of management procedures through certification or accreditation procedures. While the different groups had different priorities and actions to address the risks (see Appendices), collectively the protocols could be summarised into a generalised model (Table 3).

6. MODEL BIOSECURITY PROTOCOLS FOR WINE REGIONS IN GREATER VICTORIA

The current national phylloxera protocols evolved from work by the Victorian Wine Industry Association (VWIA) and the Victorian Department of Primary Industries. This early work has developed protocols for phylloxera in Victoria. The practical application of the Victorian protocols was amply demonstrated during the King Valley and Upton phylloxera outbreaks. The protocols provided an action plan for local growers; and showed the interstate wine industries that Victoria had the plans and expertise to manage phylloxera quarantine, and to respond to outbreaks. Arguably, the wine industry in Victoria has maintained access to interstate markets because of these protocols.

The biosecurity protocols developed in the current project were a logical next step to fill the gap between the procedures applied in Phylloxera Infested Zones, and Phylloxera Exclusion Zones. The importance to growers in Greater Victoria is that the protocols can address the unique risks they may have from relatively close proximity to infested vineyards, and the risks from newly infested, but as yet unidentified vineyards in their regions. In practice, the protocols are a guide for the actions that people in the wine industry can apply at a local level. The actions are voluntary, usually with a specific and pragmatic aim, and complement but do not overlap with regulatory actions. The actions become part of the "standard operating procedures" of vineyards and wineries, service providers, and regional wine grower groups.

The model biosecurity protocols given here (Table 3) are a synthesis of the outcomes of the different workshops, and aim to provide an example for further refinement by interested groups. In the long term, the successful operation of these protocols would become one of the essential criteria for the region becoming a PEZ, if that was the goal of regional grapegrowers and winemakers.

7. IMPLEMENTATION OF PROTOCOLS

The main purpose of developing the regional biosecurity protocols was to agree on, and guide, the actions that individual grape growers, wineries, service providers, and industry associations could take to minimise the risks of introducing pests and diseases to their vineyard, or via their business operations. These actions needed to be initiated and managed by people involved in the regional wine industry, rather than other people or organisations.

At each workshop, participants were asked to identify the actions that they considered the group should take to implement the protocols, and the actions that they would personally initiate. These are documented in the Appendices. Examples of the proposed actions are listed in Table 2.

Table 2. Examples of individual and group actions identified at biosecurity workshops

Individuals	**Groups**
Appropriate signs at vineyard entrance	Model checklists for use by vineyard managers
Provide hard pan wash area for machinery	Induction procedures for service providers
Improve washing facilities, provide tools and protective clothing to vineyard workers	Pre vintage discussions with wineries, transport operators etc to reduce risks in harvest operations
Paths to guide visitors to winery, reduce access to vineyard	Information kits for local Govt, tourism operators
Install foot baths and disinfestation facilities for tools	Lists of preferred contractors (biosecurity relevant)
Provision of a visitor's book	Information kit for vineyard developers
Improve fencing to restrict vineyard access	Work to become a Phylloxera Exclusion Zone
Provide better parking facilities	Fast track heat disinfestation room for region

Table 3. Model biosecurity protocols for wine regions in Greater Victoria (These protocols are relevant for PRZ, and pests and diseases with grapevines as their host plant).

Pathway to infestation	Likely hazards	Purpose of protocol	Actions required	People involved	Resources required	Monitoring required
Grapevines (or parts of)						
Young vines from nurseries	Phylloxera or nematodes on roots, grapevine yellows	Ensure clean planting material	Source plants from nurseries in PEZ, with hot water disinfestation	Regional association, AVIA accredited nurseries	Information for regional grape growers	Feedback to Association on new vineyards
Grapevine leaves	Pests or diseases on leaves	Stop movement of leaves into or from vineyard	Control access to vineyard for leaf samplers	Vineyard managers, service providers	Signage and fences	Vineyard management
Grape bunches and berries	Live phylloxera crawlers, and diseases on bunches	Stop entry of bunches or berries into vineyard area	Control access to vineyard by fruit samplers, and clean dirty gear before entry	Vineyard managers, service providers	Signage and fences	Vineyard management
Ornamental vines	Potential host for pests and diseases	Reduce risks of harbouring pests and diseases	Don't grow ornamental vines in visitor areas, or control pest and disease infestation	Property managers	Normal operations	Property managers
Grape marc	Pests or diseases in marc	Prevent pest or disease transfer from marc	Introduced marc is not composted near vines	Vineyard and property managers	Remote area for composting marc	Nil
Equipment used in vineyards						
Grape bins	Phylloxera crawlers in unclean bins	Prevent transfer of phylloxera on bins	Cleaning, disinfestation and tracking system for grape bins	Vineyard and winery managers	Washing and heat sterilisation at winery	Bar coding or similar tracking system, compliance agreements
Machines and other implements in contact with foliage	Pests and diseases contaminate machine and vine fragments	Prevent pest and disease transfer on machines/ implements	Operating procedure to guide cleaning between vineyards, according to risk	Vineyard workers	Wash down facilities	Vineyard managers, compliance agreements
Equipment used on or in the soil	Phylloxera and nematodes on root fragments or in soil	Prevent transfer of pests in soil or root fragments	Operating procedure to guide cleaning between vineyards, according to risk	Vineyard workers	Wash down facilities	Vineyard managers
People (incl. service providers, tourists etc)						
Vineyard workers, picking teams	Pests or diseases on person, clothing or tools	Minimise risks of pest and disease transfer on people	Induction process, signs, procedures for movement, cleaning, and clothing	Contractors, workers	Induction checklist, protective clothing, washing areas, signs	Contractors, vineyard managers
Visiting (viticulture, or other) service providers	Pests or diseases on person, clothing or tools	Minimise risks of pest and disease transfer on people	Procedures for movement, cleaning, and clothing	Personnel in service industries	Protective clothing, washing facilities, signs	Managers of service providers, and vineyards
Tourists	Pests or diseases on person or clothing	Reduce risks from pest and diseases on people	Pathways that keep tourists out of vineyards	Winery and property managers	Signs, property planning	Property manager and vineyard manager

8. WORKSHOP AND PROJECT EVALUATION

The evaluation questions at the various workshops (Appendices 1-13) were designed to help improve the workshop process, and to help in the formal evaluation of the project, using Bennett's Hierarchy as a model (Table 4). The full outcomes from the project will not be obvious for one to three years. The outcomes should be assessed on the basis of the successful use of the protocols by individuals and groups, by the establishment of new Phylloxera Exclusion Zones, and by the extent to which the protocols have been further developed and used. The evidence for practice change will be derived from survey or consultation with those individuals and groups that stated their intent to introduce new operating practices.

Table 4: Evaluation using Bennett's Hierarchy for biosecurity workshops and protocols.

Outcome	Improved biosecurity for wine grape growers in "Greater Victoria", including the maintenance of existing PRZs, and the establishment of new PEZs (yet to be fully assessed).
Practice change	Practical use of the regional protocols by grower groups and individuals – evidence of specific actions and procedures by individuals and groups (as illustrated in section 5, and Table 5).
KASA – changes in Knowledge, Attitudes, Skills, Aspirations	The evaluation sheets showed that attendees had increased their knowledge of biosecurity issues. Most people had changed their attitudes to biosecurity management (this was strongly influenced by group interactions), their skills in managing biosecurity issues were improved through group work in resolving the hypothetical scenarios, and individuals and groups had increased aspirations relevant to managing biosecurity risks.
Reactions	The evaluation sheets consistently recorded a high score for usefulness, clarity, and presentation of the workshop components. The interactive group sessions were most enjoyable and productive for the participants, and provided a strong basis for further action by the groups.
Participation	The grower participants tended to be the "active" group of the wine industry associations. Several of the workshops had good representation from service providers and local Government. Most workshops involved 15-25 people.
Activities	The main activities were the collation and delivery of technical information, and use of adult learning principles applied to interactive regional workshops, as detailed in Section 3 of this report.
Resources	This was a highly collaborative project. The workshop venues and participants were organised by the GVWGIDC and wine grape association leaders, technical materials and information was presented by DPI specialists, and the workshop processes were run by Grapecheque facilitators. Financial support for the project was provided by the two industry funders (GVWGIDC and GWRDC) and DPI Victoria.

To gain an assessment of any early outcomes of the project, in September 2003 GVWGIDC's executive officer conducted a simple telephone survey of representatives of most of the regional associations engaged in the project. The respondents were simply asked to comment on "*what if any changes have been or are likely to be introduced as a consequence of the biosecurity workshops*?". If no real region-wide change was indicated, they were prompted to explain the reasons for the lack of action. Table 5 below summarises these results.

Table 5. Regional Association comments on the impact of the project in their region.

Association	"What changes if any have been or are likely to be introduced following the biosecurity workshops"	Other comments made when asked ("what was/is needed" – "What should have been done differently"?
Yarra Valley	Development and promotion of checklists designed to assist growers to identify and reduce biosecurity risks	
Mornington Peninsula	Proposed adaption of 75 Yarra Valley checklists. An information package is being designed to guide newcomers to meet biosecurity and other concerns raised in a local community forum.	
Gippsland	Expected to soon endorse the implementation of checklists using the Yarra Valley checklist template.	
Heathcote	While workshops were well attended and interest generated, no follow up action has ensued to date, as there are inadequate Association resources available (people available were already overstretched). A more cautious approach has been implemented on many vineyards. But no action in relation to newcomers or broad equipment disinfection strategy.	Would have preferred more active follow up, with DPI drafting and promoting protocols.
Goulburn Valley, Victorian High Country, Strathbogie Ranges	Leaders of these three associations developed plans that were not supported by the wider membership (who believe they have enough information on phylloxera), so no changes have yet been introduced or planned.	Suggested that workshops should have given more discussion on biosecurity risks other than phylloxera, and that the IDC and DPI should have placed more emphasis on follow up to the workshop. Suggested formulation of a standard protocol which covers phylloxera as well as other risks, and design a leaflet on the risks for wide dissemination
Henty	Workshops and installation of PEZ signage have greatly increased awareness of risks. Some basic biosecurity procedures have been implemented at vineyard level. No current move to draft protocols.	Need to be supplied with model protocols, which, if necessary can be amended at regional level prior to implementation.
Ballarat	Basic improvements in procedures are being promoted as a matter of policy (eg field day notices give advice of arrangements to protect biosecurity). No move to draft region wide protocols.	Completion of workshops meant loss of forum to progress issues such as possible adoption of Yarra Valley checklists.
Sunbury	Actively progressing with the development of protocols covering local vineyards and wine festivals, and has implemented a temporary biosecurity protocol across the region.	
Macedon Ranges	Some improvements on individual vineyards but no group action. Association resources already severely overstretched in dealing with a restructure of the three Associations in the region.	Suggested raising the issue through Grapecheque, preferably after the organisational restructure is completed in 6-12 months time.
Pyrenees and Grampians	Active consideration is being given to the conduct of a survey of all vineyards in these regions, preparatory to raising the region's phylloxera risk status from PRZ to PEZ. Good progress has been made in securing some of the funding needed to carry out the surveys.	
Bendigo	Some protocols introduced on individual vineyards but no group action for regional protocols, as adequate Association resources were not available.	Suggested that biosecurity issues should again be raised with the Association.

9. PHYLLOXERA EXCLUSION AND PHYLLOXERA INFESTED ZONES IN VICTORIA: DEFINITION, SIGNS AND COMMUNICATION

The National Phylloxera Management Protocol has been formulated to:

1. Prevent the spread of grape phylloxera from Phylloxera Infested Zones (PIZ), which include the declared Vine Disease Districts of Victoria.
2. Prevent the entry of phylloxera into vineyard areas which are recognised as not infested and which are protected by quarantine protocols (Phylloxera Exclusion Zones - PEZ), and areas not known to be infested (Phylloxera Risk Zones - PRZ) but which have no formal quarantine protocols in place.

The National Phylloxera Management Protocols have been endorsed and are implemented in Victoria through legislation (Plant Health and Plant Products Act 1995) and actions by the Victorian Government, as well as actions by the viticulture industries. The protocols deal with the movement of grapevines, grapevine material, and viticultural equipment that could carry phylloxera to another vineyard area, by applying the principles of hazard analysis and critical control procedures through to development of operating procedures. Details of the National Phylloxera Management Protocols are linked to the GWRDC web site (www.gwrdc.com.au).

The protocols apply at various levels – individual vineyard, company, region, and State – and the operating procedures developed at the various levels reflect the relative risks and controls that are appropriate. However, the protocols cannot function without knowledge of which vineyard areas are infested or not infested by phylloxera, and effective communication of that knowledge to stakeholders.

9.1 Phylloxera Infested Zones (PIZ)

Phylloxera Infested Zones are areas that include infested vineyards, and all vineyards that are at risk of becoming infested by phylloxera, due to natural spread of the insect. In most situations, a buffer zone of 5 km is sufficient to prevent natural spread of phylloxera from vineyard to vineyard, and the boundaries of the PIZ are at least 5 km from the nearest infested vineyard. The main priorities for the DPI are to:

1. Maintain the integrity of Phylloxera Infested Zones. The key objective is to ensure that all phylloxera infestations are contained within PIZs declared under State legislation. This requires an effective system of phylloxera detection, monitoring of phylloxera in vineyards at risk from natural or man assisted spread of phylloxera from vineyards within the infested zones, and adjustment of boundaries or definition and declaration of new infested areas as required. DPI is also responsible for monitoring industries compliance with legislation in relation to the removal of phylloxera host product and agricultural equipment from PIZs.
2. Identification of Phylloxera Infested Zones through appropriate signage, and communication to the people and organisations that may be involved in or affected by transfer of phylloxera from infested vineyards. In practice, this will be achieved by mapping and signage of infested zones, then working together with industry organisations to communicate knowledge of issues to stakeholders, especially the legal requirements in relation to the movement of material out of PIZs to other parts of Victoria.

9.2 Phylloxera Exclusion Zones (PEZ)

Phylloxera Exclusion Zones are areas where phylloxera has never been known to occur, where there is compelling evidence that phylloxera is not present (eg. negative results in surveys), and where there are protocols and legal requirements in place to prevent its introduction. The PEZ may be based on historical evidence (eg. north west Victoria), and/or information and evidence gathered in surveys (eg. Henty).

The priorities for DPI are to:

1. Assure that the PEZs are based on reliable information and evidence, by providing advice and support to industry in their efforts to have PEZs legally declared, and to maintain the status through development and implementation of appropriate protocols and operating procedures.
2. Develop appropriate signage, with agreement and support from local industries, and assist industry to develop and implement communication strategies that reinforce the operations of the PEZ.

9.3 Phylloxera Risk Zones (PRZ)

Phylloxera Risk Zones are areas where phylloxera is not known to be present, but there have been no systematic surveys for phylloxera in the region, and there are no specific protocols or actions taken to prevent its introduction. There are no specific requirements or actions that need to be taken by DPI regarding PRZs, apart from encouragement and support if viticulturalists in those zones wish to change the status of the zone to PEZ.

9.4 Signs and communications for current Phylloxera Infested Zones

Current PIZs are the North East, King Valley, Mooroopna, Upton, and Nagambie zones. The locations of these zones are shown on maps (Figure 1), which are freely available and suitable for communication activities by viticulture industries and service providers. Maps of the PIZs are accessible on the DPI Plant Standards web site.

Signs that mark the boundaries of these zones are mostly in place alongside the major roads leading into infested zones, but the signs need to be updated to accord with current information and new format. DPI has undertaken to remove and re-position 15 signs in and around the PIZs of Victoria prior to vintage 2004. These signs would be replaced on a priority basis on major roads that transect the existing zones. The breakdown of the intended signage relocation in each zone would be North East and King Valley (7), Nagambie (4) and Mooroopna (4). Four signs in the Upton PIZ and two signs in the Nagambie PIZ have been erected and include the updated format.

Signs on secondary roads exiting the PIZs will be replaced as additional funds become available.

Industry will be made aware that with the completion of the industry biosecurity workshops and stage one of the sign replacement program, DPI will investigate all breaches of the regulations which could lead to prosecution of offenders.

9.5 Surveys and detection of vineyards in Phylloxera Risk Areas

History suggests that any new phylloxera infestations will be in vineyards with links (common ownership, commercial dealings, sharing of equipment or contractors) to infested vineyards within existing PIZs. Subject to Government and/or industry resources, vineyard surveys, remote monitoring, and industry liaison should continue into priority areas (Yarra Valley, central Victoria) to ensure early detection and containment of new outbreaks. Trace back and trace forward surveys have been carried out for three seasons on all properties within 20km of the Upton outbreak site. The surveys were expanded to include any Victorian properties that had dealings with or were associated with grape growing properties within 5km of the Upton infested site. A number of such large property groups have now been surveyed for three seasons within the Yarra Valley and no phylloxera has been detected.

Surveys of the Mooroopna district have found that there are only a small number of vineyards remaining in the area and with the collection of additional data there is the possibility that the existing boundaries could be reduced.

Regular surveys in PIZs are carried out as part of a permit arrangement for the movement of grapes from existing PIZs to other PIZs for processing. The surveys supply additional information on the spread of phylloxera within existing boundaries.

9.6 Signs and communications for Phylloxera Exclusion Zones

Up to date maps are available for the current PEZs (Sunraysia-Mid Murray; Henty-West Wimmera) on the DPI Plant Standards website. The recently declared Henty-West Wimmera PEZ has new signs to show the boundaries of the zone. The signage on the Sunraysia-Mid Murray PEZ is out of date. As funds become available, five signs will be replaced on the major approaches into the Sunraysia and Mid Murray PEZ. The signs on the secondary roads entering the Sunraysia and Mid Murray PEZ will be replaced as additional government funds become available.

9.7 New Phylloxera Exclusion Zones

The current project on biosecurity for the wine industry in Victoria has reinforced the desire of several grower organisations to work towards upgrading to PEZ status. The technical assistance and advice of DPI is of obvious help to regional organisations. Subject to the availability of industry funds (eg Greater Victoria Wine Grape Industry Development Committee, GWRDC Regional Innovation and Technology Adoption), for surveying potential PEZs, there are opportunities for DPI to work with industry to achieve greater biosecurity for the wine industry in Victoria.

During the period of the biosecurity project, DPI officers attended a combined regional association meeting to discuss the requirements for the declaration of new PEZs in Victoria. This approach will continue with winery groups, individual associations or the Greater Victorian Wine Grape Industry Development Committee.

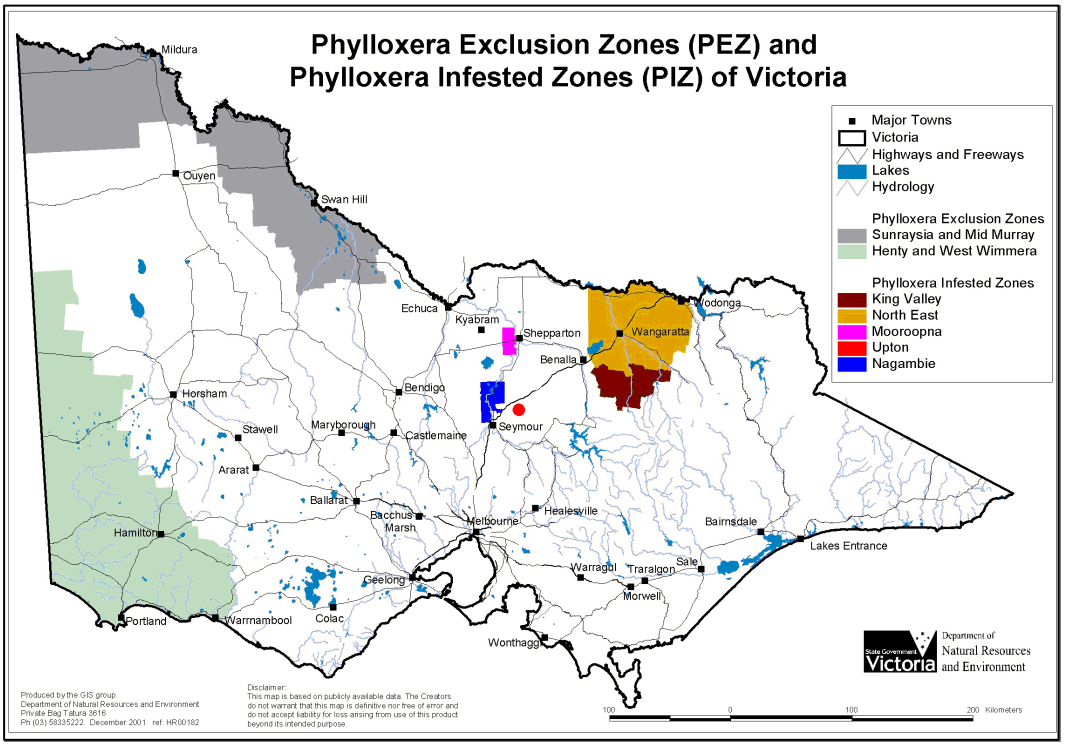


Figure 1. Phylloxera infested and phylloxera exclusion zones in Victoria.

10. ACKNOWLEDGEMENTS

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11. FURTHER INFORMATION

Further reports on the work of this project, carried out in the Pyrenees, Grampians, Bendigo, Gippsland and Mornington Peninsula regions, are available from GWRDC. These are:

- Development and implementation of regional biosecurity protocols throughout Grampians, Pyrenees and Bendigo regions of Greater Victoria – project number RT02/35-4
- Development and implementation of regional biosecurity protocols throughout Gippsland and Mornington Peninsula – project number RT 02/03-4.

Appendix 1: Report of Phase 1 regional biosecurity workshop at Heathcote, Monday 24 June, 2002.

A hypothetical situation was discussed, which highlighted potential ways phylloxera could enter the Heathcote area.

Pathways identified for potential phylloxera infestation:

- Contractors/machinery…haulage/cartage*
- Vines*
- Workers-teams*
- "Casual" tourists*
- Second hand equipment
- Viticulturists/winemakers/DPI
- Vineyard owner
- Animals
- Salesman
- Bins*
- Mulch and grape marc

*Protocols were developed for the pathways denoted with an asterix in the list above

Possible effects on business, if phylloxera infested the Heathcote region:

- Restrict sales options
- De-value business
- Costs of running vineyard go up
- Increase water requirements
- Quarantine practices needed, therefore costs go up
- Trouble getting workforce
- Stigma associated with area
- Salesmen need to re-schedule visits to vineyard

Protocols developed to reduce the risk of phylloxera infestation in the Heathcote region

Pathway of phylloxera infestation	Bins and machinery	"casual" tourists and professionals	Teams of workers	Vines and planting material
What is the hazard?	Spread of pests and diseases on bins and machinery	Lack of control of people who may spread disease Tourists/reps may transfer phylloxera on clothes etc		
Purpose of the protocol	• Stop the spread of pests and diseases • Keep the area a PEZ	• Prevent own vineyard from being infested and infestation of other vineyards by people movement	• Minimise the risk of phylloxera infestation	• To preclude planting material from infested zones, to stop spread of disease
Who is involved?	• Vineyard manager • Where the equipment has come from • Contractors (haulage, supply of machinery, operator)	• Owner/manager • Winemakers • Staff/sales/marketing people • Labour hire firm • Neighbours	• Associations • Owner/manager • Labour contractor/workers (education and habit)	• Nurseries • Growers • Contractors • Consultants • DPI
Actions required?	• Vineyard manager to inspect all bins and machinery before they enter and exit the vineyard • Contractor and vineyard manager to discuss and develop protocol • Develop regional…Victorian …. Australian protocols	• Signage-people barriers, info boards, exclusion zones, hygiene material • Education of tourism operators • Sign in books with instructions to people (in point form, simple language) • Provide safe area that is signed • Develop and enforce protocols	• Signage • Education and habit • Induction standard procedures • Footbath, equipment supply, clothing protocols • Controlled traffic • Workers background	• Association to publicise our protocols for vines and planting material • Council planning participation • Association or DPI to issue certificates of compliance for planting material • Association to develop new and possible members pack • Contact number on signage
Resources	• Wash down facility • Hot water treatment area, bath, washdown	• Simple, standard operating procedures (in simple point form) • Parking area • Fencing • Signage	• Culture of willingness • Education-simple and clear-procedure, sign, association • Parking areas-entrance designs/planning • Washdown facilities	• Member pack • Signage
Monitoring		• As for the 'who is involved section' above	• Vineyard management responsibility • Association 'encouragement' • Contractor/visitor record	• As a group, inspection of current vineyards • Existing vineyard planting material audit

The protocols for reducing the risk of phylloxera infesting the Heathcote region were validated against four other pests and diseases.

Glassy winged sharp shooter

- The protocols developed for phylloxera were not relevant
- Need to stop the sharp shooter getting into Australia, which is a quarantine issue

Pierce's disease

- As with the glassy winged sharp shooter, the protocols developed for phylloxera were not relevant
- Again, need to stop the Pierce's disease bacteria getting into Australia, which is a quarantine issue

Grapevine leaf rust

- The leaf rust spreads via machinery and vine plantings in hot areas (and via wind)
- Two protocols developed for phylloxera were relevant (ie. The protocols covering vine and planting materials, and bins and machinery).

Fire ants

- One protocol developed for phylloxera was relevant (ie. The protocol covering vine and planting materials) because the ants are carried in soil.
- Methyl bromide can be used as a control, but this wasn't seen as an 'IPM' friendly option.

Appendix 2. Report of Phase 2 regional biosecurity workshop at Heathcote, Monday 24 October, 2002.

Four hypothetical situations were acted out in role-play exercises. The role plays were used to test the draft biosecurity protocols developed at a workshop in Heathcote on 24 June 2002.

Role Play	Did the protocols help? If no, what needs to change in the protocol?	What actions need to happen now? By whom?
Contractor (carts bins, fruit and wine across Victoria)	Yes/No Need to include winery in actions/monitoring	• Discussion to develop protocol by association with vineyard managers, contractors and wineries • Association to develop a checklist for truck drivers, growers and wineries • Growers to specify in contracts on routes and driver training on signs • Association to train contractors • Need to induct all drivers to know all sites • Need a pre-vintage meeting to work out allowed routes, to develop a bin identification and audit trail • Need a list of all growers
Visit by the Deputy Prime Minister to the Heathcote (coming from King Valley with bodyguards)	Yes. The protocols gave us a starting point to further develop other options.	• Regional signage - Association with other authorities • Publicise protocols - Association publicity officer • Further develop and broaden the protocol - Association
New Spanish Varieties	Yes, for educated growers	• Trace locations of suspect vines (eg. nursery) - action by DPI • New growers info pack - signage and traceability - to all in area and contractors • All contractors to be 'sanitised' prior to starting work - heat treatment plant • Vineyard and area signage
New irrigation technology (salesman wants to demonstrate his new equipment)	Protocols raised our awareness 1. Need to ensure that councils have information regarding controls or call centre number 2. Need phone number on signs for persons entering/leaving phylloxera area to enable contact to be made 3. Add to signs phylloxera tasks to be carried out ie. wash equipment before leaving 4. Need hotline for winegrowers/others to contact re: info about disease 5. Need list of accredited or preferred persons/contractors 6. Induction/tick list for contractors available at vineyard/winery ie. tick off all items, similar to induction sheets 7. Need all vineyards to be registered by region.	• Association to advise councils re: phylloxera etc. • Association to identify needs and source body to implements for free and DPI to include contact info/phone number in brochures. • Association to develop package that provides full advice including contact names/numbers where diseases are identified or there are concerns about diseases • Association to maintain list of preferred contractors • DPI or VWIA to construct list and provide to association • DPI should implement with input from association

Actions/comments from participants at the end of the workshop:

- Everyone is responsible for self
- Signs are not enough
- Deal with truck company
- Regional leadership - go quick!
- New 'growers' kit and visit to welcome (DPI new grower kit) - local business
- Signage and learn from other regions
- Get non-attendees on board - consistency
- Sign own vineyard and protocols
- Restrict access to own vineyard
- Look at SA protocols - learn?
- A lot more to do
- Today a good second step - positive and reality
- Good to have contractors involved
- Aspire to be a PEZ? What is involved and what benefits?

Appendix 3. Report of Phase 1 regional biosecurity workshop at Hamilton, Friday 28 June, 2002.

A hypothetical situation was discussed, which highlighted potential ways phylloxera could enter the Henty region.

Pathways identified for potential phylloxera infestation:

- Contractors equipment (eg. pickers)*
- Grape wine bins*
- Machine harvesters
- Visitors
- Second hand equipment (eg. vine guards, star pickets)
- Mulch
- Ungrafted vines, rootlings from other regions*
- Grape marc from a phylloxera infested area
- Stock trucks and machinery not directly used in the vineyard*

*Protocols were developed for the pathways denoted with an asterix in the list above.

Possible effects on business, if phylloxera infested the Henty region:

- If you were responsible for introducing phylloxera, could be open to litigation
- May not be able to send fruit to other regions
- Financial - decreased yields, inability to sell grapes, replacement of vines, loss of income, need to buy crushing facilities, increased wine quality
- Reputation
- Hard to source contractors
- Wouldn't employ harvester from infested area
- De-value capital asset
- Restrict tourism
- High health status will be changed to the other end of the scale
- 'Stigma'

The protocols for reducing the risk of phylloxera infesting the Henty region were validated against two other pests and diseases:

<u>Glassy winged sharp shooter & Pierce's Disease</u>

- The protocols developed for phylloxera were probably not going to keep it out.
- The effort needs to be in quarantine - keep it out!

<u>Fire ants</u>

- The protocol that suggests cleaning machinery could be relevant, but it could be tricky to get all the soil/ants off!
- Pot plants also need to be inspected. A protocol needs to be developed around this issue.

Protocols developed to reduce the risk of phylloxera infestation in the Henty region

Pathway of phylloxera infestation?	Machinery and implements used in the vineyard	Grape bins	Contractors to vineyards (people and machinery)	Nursery material
What is the hazard?	Transporting soil, phylloxera crawlers and vine material to/from vineyard			
Purpose of the protocol	• Disinfestation of equipment, vehicles and tools • Disinfestation/removal of phylloxera from operators and clothing • To ensure contractors adhere to protocol (accreditation?)	Minimise risk of infection and cross infection	• Maintain our PEZ status • Ensure integrity of individual vineyards	Prevent introduction of pests and diseases not present in Henty
Who is involved?	• Foreman of contracting team • Machinery operators (contractors and vineyard) • Vineyard management • DPI - Plant Standards	• Managers of vineyard and winery • Truck driver • Fork lift operator	All contractors • Earthworks • 'Experts' • Sales reps • Harvest equipment and people • Transport industry	Users and suppliers of nursery material, including retail nurseries
Actions required?	• DPI • Footbath to clean boots • Appropriate cleaning procedures/protocols as approved by DPI • Information on phylloxera available/supplied to all operators • Contractors to supply work history and equipment maintenance/cleaning	• Clean source of bins (reputable) • Educate all associated staff • Adequate infection control policies • Vineyards to own bins	• For vineyard walks, adhere to protocols (eg. footbaths) • No tourists allowed in vineyards • Signage (roads and vineyard) • People's past movements (references and visitor books) • Foot baths/steam cleaning of equipment	Make sure all individuals are aware of legislative requirements

Pathway of phylloxera infestation?	Machinery and implements used in the vineyard	Grape bins	Contractors to vineyards (people and machinery)	Nursery material
	records (certification by DPI?) • Zoning of vineyard into exclusion zone/general zone etc with disinfestation zone in between • Shower facilities in amenities buildings • Supply of tools/clothing • Workers/contractors to use vineyard equipment if possible		• Receival and dispatch area and buffer zone	
Resources	• Phylloxera information fliers/leaflets and DPI participation • Machinery disinfestation area, including steam cleaner, hard standing area, drainage, water capture • Boots/tools/clothing supplied or cleaning facilities available • Include information about phylloxera in induction training	• Steam cleaner/washing bays • Purchase bins • Signage • Crushing facility in region • Sealed entrance to receivable point • Chemicals • Time for task and education • Concrete pad for putting picking bins on • Permit needed for bins going from Great Western back into Henty (needed by grower or winery?)	• Signs • Knowledge and information • Wash down and cleaning areas • Information about keeping tourists out of the vineyard to be included in any information booklet developed for establishing a vineyard in the region	• Copies of gazetted requirements are disseminated to Henty region growers • Education of associated industries • Shire should have the relevant information regarding the industry in the region and about sourcing planting material
Monitoring	• Equipment log book • Contractor log book/work history/machinery accreditation	• To be performed by vineyard and winery managers or delegates • Adequate recording	• Observation and local knowledge • Audit-inspection • Visitor books	• Growers to record where material is sourced from • Interstate certification permit

Pathway of phylloxera infestation?	Machinery and implements used in the vineyard	Grape bins	Contractors to vineyards (people and machinery)	Nursery material
	• Inspection and approval of all plant and equipment by vineyard staff	systems	• Information package for vineyard workers	
Corrective action	• Record any incident not complying with above • Refuse entry to contractors/operators not complying with above • Prevent unauthorised use of plant and equipment • Prevent unauthorised movement of vehicles between different regions, vineyards and vineyard inter-zones	• Refuse access to property • Request clean bins • Quarantine area and attempt disinfection	• Isolate the problem • Stop further spread • Correct the problem where possible • Inspect/observe/clean problem • Let Plant Standards know (eg. unhygienic practices of contractors)	• Henty group tries to include new prospective growers • Illegal material investigated by Plant Standards

Appendix 4. Report of Phase 2 regional biosecurity workshop at Heywood, Monday 2 September, 2002.

Two hypothetical situations were acted out in role-play exercises. The role plays were used to test the draft biosecurity protocols developed at a workshop in Hamilton on 28 June 2002.

Role Play	Did the protocols help? If no, what needs to change in the protocol?	What actions need to happen now? By whom?
Contractor (carts bins, fruit and wine across Victoria)	Yes – prompted people to ask questions about bins, their origin, and hygiene Need a pre-vintage meeting to work out allowed routes, to develop a bin identification and audit trail Cartage contractor to be notified of protocols before contract is negotiated (winery and transport company to be responsible for this) Dialogue to ensure contractors know their "job" in observing protocols Truck driver should have a copy of the permit which specifies that the bins have been cleaned properly Henty association to discuss protocols with managers at Great Western	By individuals : • Ask some questions of truck drivers eg. where have they been? • Ask the person who receives the bins – How have the bins been treated? What happens to bins when they are delivered? By the regional association: • Disseminate information about this (bin) protocol to relevant people in the area before vintage
Contractor (machinery) and nursery material	Yes. Protocols important to maintain PEZ status, access to South Australia, improved biosecurity, cheaper options for permits, increase personal awareness and group cooperation. Potential for "clean business" eg. rootlings	All members must be aware of responsibilities Question contractors Develop standard protocols for machinery and plants Set up an information booklet Develop a list of preferred suppliers – maybe with associate membership Cleaning facilities need to be established or identified Education of relevant groups Information – Shire, Southcorp, newspaper, tourists

Actions/comments from participants at the end of the workshop:

<u>Individual actions:</u>

- Signage
- Loading area/car park
- Isolating the vineyard eg fencing if practical
- Rope off and sign area for visitors at festival
- Think about where machinery is parked
- Install a footbath?
- Simple A4 sheet with questions, readily accessible, with a checklist, perhaps to hand to contractors

<u>Association actions</u>

- Review protocols after next season
- Association to nut out a list of questions
- Protocol implementation to be followed up at AGM in October

Appendix 5. Report of Phase 1 regional biosecurity workshop at Yarra Glen, Tuesday 25 June, 2002.

A hypothetical situation was discussed, which highlighted potential ways phylloxera could enter the Yarra Valley area.

Pathways identified for potential phylloxera infestation:

- Planting material*
- Contractors
- Tourists*
- Winemaking staff
- Mechanical harvester*
- Ornamental vine
- Students and professionals*
- Purchase of fruit from a known phylloxera area and from unknown sources*
- Vehicles

*Protocols were developed for the pathways denoted with an asterix in the list above

Possible effects on business, if phylloxera infested the Yarra Valley region:

- Contractors won't go into phylloxera infested areas, due to increased costs associated with disinfestation
- Stigma, within industry and with consumers/at the point of sale
- Costs increase due to:
  - protocols needed for tourists
  - increased costs associated with movement of bins/machinery
  - lees and effluent disposal and associated costs in the winery
  - management practices (eg. logistics)
- Tourists would be intimidated by signs, fencing, buffers
- (Bleach baths might affect clothes!)
- Effect on quality of wine
- Asset value will decrease
- 'Good will' will decrease
- Won't have as many avenues to sell fruit
- Decrease in yield
- New wineries/processing facilities may enter the area
- May be an incentive to get rid of old varieties, if vineyards are replanted

Protocols developed to reduce the risk of phylloxera infestation in the Yarra Valley region

Pathway of phylloxera infestation?	Planting material and nurseries	Tourists, students and professionals	Mechanical harvester, machinery and transport	Purchase of fruit (including issues with bins and marc)
What is the hazard?	Introducing diseased stock into the area Purpose: To ensure only clean planting material is used in the Yarra Valley	Phylloxera on clothes, shoes, vehicles, equipment Tourists - vine material Movement to and from	Do we have any phylloxera in the Yarra Valley?	
Who is involved?	• Vine improvement association, vineyard managers • Local association, industry, "U&I"	• Site managers, winery and vineyard managers, workers • Students and professionals - individual and industry • Tourists -tour operators, cellar door staff, architect design - site planning	• Vineyard, contractors, service personnel, transport (juice and fruit), staff at both • Bin suppliers/winery/grower	• Purchaser • Transport
Actions required?	• Develop an information pamphlet, get information to the contact points ie. shire office, winery, consultants, DPI	• Notification of visit by tourists, students and professionals • Individual tourists-signage, access - defined and restricted (design and site manager) • Actions according to risk assessment ➢ Low risk - paths access ➢ High risk-clothing footwear, entry and exit, footbath or disposable booties • Staff education on a regular basis/ongoing • Media/press releases -	• Protocols - education - clean between every location • Washdown with heat to ensure cleanliness • If diseased area visited, obligatory to clean or heat treat or both • Inspection of fruit coming in, with certification of treatment • Centralised certified cleaning facilities, heat or wash • Agreement is needed between the contractor and the vineyard manager	• Juice only (rather than whole fruit) to be purchased from a PIZ (red grapes-fermented, white grapes - clarified 0.5 microns) • Bins cleaned - preferably steamed • Marc - only accept phylloxera free

Pathway of phylloxera infestation?	Planting material and nurseries	Tourists, students and professionals	Mechanical harvester, machinery and transport	Purchase of fruit (including issues with bins and marc)
		tourist centres		
Resources	• Source of clean planting material • Certification - 'Plant Health Certification' (ie. heat treatment, accreditation of mother vine)	• Tourists - signage, access, verbal, literature • Students and professionals- wash down, restrict vehicles, parking, visitor traffic isolated from working traffic • $$$ - how funded??	• Facilities - central - local - owner • Signage and education of all involved • Certification and documentation (with standards)	• Vineyard access-gravel areas • Cleaning facilities for trucks • Specific gravel truck loading area needed • Contract harvesting protocols
Monitoring	• Wineries - vineyards to supply documentation • Vineyard registrar - 'Number ID' • Council could be involved - need permit and a registration number when you plant your vineyard • Local environmental management • DPI survey	• All staff - delegation of responsibility, regular reporting • Visitor books-signatures	• Documentation and log book with destinations entered • Contractor-client interface with documentation within Yarra Valley • Set appropriate standard for contractors etc. entering Yarra Valley (including documentation)	
Corrective action	• DPI survey • Notification of other "stakeholders"	• Record of intrusions and then appropriate action • Banning of repeat offenders (eg. tour buses) • Question unreported visitors re: previous vineyard visits (assess risk)	• Acceptance of specified minimum standards certified • Wash downs - heat treatment • Range of situations where which applies • Review standards and operations regularly • Who controls-penalties?	

The protocols for reducing the risk of phylloxera infesting the Yarra Valley region were validated against four other pests and diseases.

Pierce's disease and the glassy winged sharp shooter

- Protocols developed for phylloxera would be ineffective.
- It is a national quarantine issue, need to stop the bacteria and the insect getting into Australia.

Grapevine leaf rust

- One protocol developed for phylloxera was relevant (ie. the protocol for planting material and nurseries).
- Need to know more about
  - Heat treatment - will it kill the fungus? Probably?
  - What is the risk of spores on fresh imported grapes? Will sulphur pads etc control it? What about chemical control?

Fire ants

- One protocol developed for phylloxera was relevant (ie. the protocol for planting material and nurseries) because the ants are carried in soil.
- Need to look developing a protocol looking more at ornamental plants and people movement (particularly their luggage).

Appendix 6. Report of Phase 2 regional biosecurity workshop at Yarra Glen, Thursday 31 October, 2002.

Four hypothetical situations were acted out in role -play exercises. The role plays were used to test the draft biosecurity protocols developed at a workshop in Yarra Glen on 25 June 2002.

ROLE PLAY	Did the protocols work? How?	If not, what needs to change?	Actions to take forward?
Contractor (carts bins, fruit and wine across Victoria)	Grape seller involved Define standards - clean bins, documentation	Training of transporters Specific guidelines for district and individual vineyards Plan B for failed protocols	Individual protocols for all actions (winery, transporter, bins, grape seller) Policing Local associations to play role in agreements and contracts for buying/selling/transporting Tick sheet for truck drivers and growers
Visit by the Deputy Prime Minister to the Yarra Valley (coming from King Valley with bodyguards)	No - the security personnel in the role play were unsupervised Yes - control press and national leader	No concept of overboots, or starpicketed or taped barriers, in the present protocol Need to have permanent protective measures on all vineyards (footbaths, maybe protective overboots for important people, signs, mandatory exclusion of tourists from vines) Maybe need phylloxera signs on all major roads into the Yarra Valley	Small group of people needed to handle such a situation with the resources at hand (eg. star pickets and tape, overboots)
Tourism (bus load of visitors with galled vine leaves)	Busload - bus parked at bottom of vineyard Group visits to the vineyard, walk through roses etc. Notification of visit to winery - met at arrival? Information of risks factors to the tour operators? Yarra tourism- • what/how to handle?	Information to tour operators No entry to vineyard/access path/OH&S Reporting - avoid undue alarm! Agribusiness providers/DPI/other professionals need to switch on! Winemakers - use of casual labour for berry sampling	How to deal with high risk? Tourists Vineyard signs are good! But not on roads Yarra Glen tourist centre - what info is there? Wine growers association - inform and have information

ROLE PLAY	Did the protocols work? How?	If not, what needs to change?	Actions to take forward?
	• No vineyard walks? Good access track? • OH&S issues in vineyards - use? Phylloxera on people travelling in bus? Anyone carrying vine material - briefing on bus? Quarantine bag of leaves - no action or report?		
New leaf removal technology (salesman wants to demonstrate his new equipment)	No - due to lack of awareness	Actions required: pose question - where has equipment been? Signage for Yarra Valley on individual vineyards and entry/exit points	Educate wider viticultural community in the Yarra Valley - all growers need to know the issues. Need local association to push implementation of the protocols More detail on what needs to be done regarding treatment options

At the end of the workshop:

Actions identified for the group as a whole:

- November RITA application for identifying vineyards in the Yarra Valley…tech committee to follow up
- Re-form a 'protocol' committee
- BBQ to publicise the protocols - get as many people there are possible
  - Perhaps two BBQ's…one at either end of the Valley
  - Aim to have it before Christmas (eg. Nov 29).

Actions identified for individuals:

- Footbaths, educate staff and owner - persuade owner
- Footbath access - integrate with building extensions
- Educate staff and clients - need $$'s, time
- Tell clients to use protocols, create awareness, reinforcement
- Include in student curriculum
- Customer and client awareness
- Cut down access points to vineyard
- Clothing issues for contractors
- Have footbaths being used
- Email distribution list
- Improve washdown areas
- Clear signs on property
- Spencer to stop trampling around (!!)
- Put up phylloxera signs
- Communicate with people not in the association
- Clothing for workers - clean/coveralls
- Control wife buying roses (!!)
- Dustcoats for workers

Appendix 7. Report of Phase 1 regional biosecurity workshop at Avoca, Tuesday 26 November, 2002.

A hypothetical situation was discussed, which highlighted potential ways phylloxera could enter the Pyrenees/Grampians/Bendigo regions.

Pathways identified for potential phylloxera infestation:

- Machinery* including harvesters
- Grape bins*
- Soil/compost/mulch
- Planting material*
- Pruning and picking gangs, with their own equipment
- Tourists and visitors (people)*
- Second hand gro -guards and trellising material
- Truck and driver
- Owner and employees
- Animals

*Protocols were developed for the pathways denoted with an asterix in the list above

Possible effect on business, if phylloxera infested the Pyrenees/Grampians/Bendigo regions:

- Decreased yields
- Restrict activities eg. Where you can sell grapes
- Decrease value of the vineyard
- Stigma associated with your vineyard and region
- Ungrafted vines may die
- Costs associated with re-planting
- Cash flow problems due to decreased tonnages
- May have to establish crushing facility in the region

The protocols for reducing the risk of phylloxera infesting the Pyrenees/Grampians/Bendigo regions were validated against 5 other pests and diseases.

Pierce's disease and the glassy winged sharp shooter
- Protocols developed for phylloxera would not work.
- It is a national quarantine issue, need to stop the bacteria and the insect getting into Australia.

Grapevine leaf rust
- One protocol developed for phylloxera was relevant (ie. the machinery).
- It would be difficult to control because it is windblown

Pacific spider mite
- Yes, the protocols developed for phylloxera would work.

Fire ants
- The protocols developed for machinery, planting material and people may help.

Dagger nematode/fan leaf virus
- Yes, the protocols developed for phylloxera would work (because the nematode lives in soil).

Protocols developed to reduce the risk of phylloxera infestation in the Pyrenees/Grampians/Bendigo regions.

Pathway of phylloxera infestation?	Machinery	Grape bins	Planting material	People
What is the hazard?	Importation of phylloxera in vegetative matter/soil trapped on machinery	Bins and trucks may be carrying phylloxera	Rootlings may be infested with phylloxera. Cuttings are a lower risk.	Transportation of phylloxera on clothing, footwear and hair
Critical control	• Establish protocols 1. Where has he been? 2. Machine washed (left/arrives?) 3. Inspect and approve work start 4. Areas designated to drive/park 5. Phylloxera area visited last - washdown 6. Washdown/footbath kit 7. Education and protocols generalised and easy to maintain 8. Sign and visiting book/checklist 9. Signage at entry points	• Source of bins needs to be known • Bins must be rinsed and steam cleaned • Accreditation showing that procedures have been followed (bar coding system for bins?)	• Purchase material from accredited nursery in PEZ • Hot water treatment • Grafted vines may hide the problem	• Restrict movement • Inquire as to previous movements • Footwear baths • Signage and physical barriers • Inform utilities eg. Telstra/Powercor
Resources required	• Money/common sense • Signage with similar messages everywhere • Washdown area - contained sump • Water/power • Visitors book	• Develop certification procedure that is common in the industry	• Awareness of issues • Know/find out accredited nurseries and PEZ • Locate hot water treatment facility – accredited, under supervision/permit • Need a certificate	• Footwear baths, visitors book • Signage, designated meeting place • Isolated tasting area • Disposable clothing • Property layout
Who must be involved?	• Growers/staff • Winery • Contractors • Carriers • DPI and others	• Bin suppliers • Growers • Fruit receival areas	• Whole region must be involved and the wine industry nationally • Accreditation • Penalty for noncompliance - how? DPI - legislation for non compliance	• Site manager and delegated personnel

Appendix 8. Report of Phase 2 regional biosecurity workshop at Avoca, Monday 17 February, 2002.

This workshop was designed to discuss implementing the draft protocols developed at Blue Pyrenees on 26th November 2002. Unfortunately, there were only six participants at this workshop, so the draft agenda was not followed. The workshop participants were Ian Blair, Paul Jenkins, Tim Harvey, Hayden Coombes, Kym Ludvigson and Sally Dickinson (DPI, Kyabram).

The group discussed a hypothetical situation to test the draft protocols. The group imagined that the Deputy Prime Minister visited Ararat and Avoca, directly from the King Valley. He had an entourage of bodyguards with him. The group decided that if the draft protocols were used in this hypothetical situation, they would be useful. The group decided that you would have to put a positive spin on the situation for the politician to be willing to adhere to the protocols (eg putting his expensive shoes through a bleach footbath!) Some changes to the 'People' section of the protocols were suggested *(see the italicised text in the attached protocols).*

A broader education campaign was discussed to get the biosecurity message across to the wider public. For example:

- Maybe having some information about biosecurity on bottles of wine?
- Maybe having a campaign about biosecurity in primary schools. Perhaps this could be included as a part of the DPI's "LandLearn / Food and Agriculture in the Classroom" project?

Actions taken after the last workshop (26 November 2002) included:

- Spoken to contractors and has started using a bleach bath for footwear and secateurs (Ian)
- Spoken to irrigation installers and is thinking about carrying a bleach bath in his work vehicle (Hayden)
- Spoken to drivers and given them some maps and other information about phylloxera (Tim)
- Implemented a visitors book and locked his vineyard gate (Paul)

Actions suggested after this workshop (17 February 2003) included:

- Talk with Plant Standards about developing a PEZ for the Pyrenees region (Kym). Meeting to be held after vintage (May 2003).
- Growers from Pyrenees/Grampians/Bendigo regions to visit the Southcorp at Great Western to view the washown facilities. Talk to Paul Dakis (Kym).
- Distribute draft protocols to Bendigo Association members and contractors (Paul)
- Distribute 'Pest and Disease Protocol Checklists' developed by the Yarra Valley growers to Paul (Vanessa).
- Have a story published in the 'Australian Grapegrower and Winemaker' publication about the washdown facilities at Great Western (unsure about commitment to putting this into action by when!)

Protocols developed to reduce the risk of phylloxera infestation in the Pyrenees/Grampians/Bendigo regions.

Pathway of phylloxera infestation	Machinery	Grape bins	Planting material	People
What is the hazard?	Importation of phylloxera in vegetative matter/soil trapped on machinery	Bins and trucks may be carrying phylloxera	Rootlings may be infested with phylloxera. Cuttings are a lower risk.	Transportation of phylloxera on clothing, footwear and hair
Critical control	• Establish protocols 1. Where has he been? 2. Machine washed (left/arrives?) 3. Inspect and approve work start 4. Areas designated to drive/park 5. Phylloxera area visited last - washdown 6. Washdown/footbath kit 7. Education and protocols generalised and easy to maintain 8. Sign and visiting book/checklist 9. Signage at entry points	• Source of bins need to be known • Bins must be rinsed an steam cleaned • Accreditation showing that procedures have been followed (bar coding system for bins?)	• Purchase material from accredited nursery in PEZ • Hot water treatment • Grafted vines may hide the problem	• Restrict movement • Inquire as to previous movements • Footwear baths • Signage and physical barriers • Inform utilities *and other contractors* eg. Telstra/Powercor *(need to target the heads of these companies)*
Resources required	• Money/common sense • Signage with similar messages everywhere • Washdown area - contained sump • Water/power • Visitors book	• Develop certification procedure that is common in the industry	• Awareness of issues • Know/find out accredited nurseries and PEZ • Locate hot water treatment facility – accredited, under supervision/permit • Need a certificate	• Footwear baths, visitors book • Signage, designated meeting place • Isolated tasting area • Disposable clothing • Property layout • *Funding needed (eg. for signs* • *A checklist could be useful (eg along the lines of the ones developed in the Yarra Valley)*
Who must be involved?	• Growers/staff • Winery • Contractors • Carriers • DPI and others	• Bin suppliers • Growers • Fruit receival areas	• Whole region must be involved and the wine industry nationally • Accreditation • Penalty for non compliance (how?) • DPI -legislation for non compliance	• Site manager and delegated personnel

Appendix 9. Report of Phase 1 regional biosecurity workshop at Dromana, Tuesday 3 December, 2002.

A hypothetical situation was discussed, which highlighted potential ways phylloxera could enter the Mornington Peninsula/Gippsland regions.

Pathways identified for potential phylloxera infestation:

- Spraying, harvesting and trimming machinery (MP) (G)
- Planting material (MP)
- Mulch
- People traffic (DPI and CSIRO employees, researchers, yourself, students, tourists, winemakers, consultants, bio-terrorists!!) (MP) (G)
- Second hand equipment
- Transport of grapes, winery and vineyard chemicals
- Pickers and their equipment
- Grape must and grape marc
- Wind borne
- Soil borne

(MP) The Mornington Peninsula growers developed protocols for the pathways denoted by (MP) in the list above.
(G) The Gippsland growers developed protocols for the pathways denoted by (G) in the list above.

Possible effects on business, if phylloxera infested the Mornington Peninsula/Gippsland regions:

- Reduce yields and quality
- Increased labour
- Get to know your neighbours better!!
- Increased cost of protective measures
- Impact on tourism - deter people
- Decreased value of fruit
- Selling fruit off the Peninsula could be difficult
- Reduced self esteem of owner
- More value adding in region instead of selling the basic product
- Decreased income due to added costs of replanting
- Decreased cellar door revenue
- Public relations problem
- Added costs of rootstocks
- Decreased value of property

Protocols developed to reduce the risk of phylloxera infestation in the Mornington Peninsula/Gippsland regions.

Pathway of phylloxera infestation	Machinery (Mornington Peninsula)	Machinery (Gippsland)	People (Mornington Peninsula)	People (Gippsland)	Planting material (Mornington Peninsula)
What is the hazard?	Soil Leaves and grape material Any vehicles and equipment (contractors, water carriers etc.)	Transport from within and without Equipment (pre-pruning, tractors, bins, harvesters, sprayers, hand tools etc)	Transportation of soil or planting material	Cross contamination Transfer of phylloxera People carrying the material	Phylloxera transported on soil and roots of vines Packaging Transport Survey district for presence of phylloxera
Critical control	• Washing • Steam cleaning • Heat treatment (70°C for 2 mins, 45°C for 2 hours) • Chemical treatment (methyl bromide) • Control vehicle access (fencing, policing, signage) • Documentation of procedures	• Isolation • Separate parking areas for visitors and equipment • Cleaning and disinfestation • Education • Control access	• Control entry • Movement of nursery material • Follow hygiene procedures • Vehicles confined to hard stand parking • Signage	• Professionals - dip, education, commitment to regional protocols • Tourists - physical barriers, vineyard exclusion • Seasonal worker - controlled transport if necessary, dip • Commercial - controlled transport if necessary, dip	• Regions of purchase (free of phylloxera) • At nursery need heat treatment, sanitation of packaging, accredited supplier • Rootstock as control • Education for all
Resources required	• Designated washdown bay (concrete pad, containment, equipment, waste treatment) • Steam cleaning (hot water) • Heat treatment room • Water (re-use,	• More details on washing procedures needed • Separate vehicle areas • Visitor parking area • Wash down area • Education • Signage • High pressure sprays	• Barriers - fencing and security (don't want to deter tourists, so need to think carefully about this issue) • Signage • Staff training • Foot baths	• Uniform, directional signage, dip • Attractive landscaping, pathways, fences, marked parking zones • Dip, equipment treating protocols • Own transport on property, dip	• Certification of clean planting material by seller • Industry educators • Signage on entry roads • Staff for creation of industry standards on the Mornington Peninsula

Pathway of phylloxera infestation	Machinery (Mornington Peninsula)	Machinery (Gippsland)	People (Mornington Peninsula)	People (Gippsland)	Planting material (Mornington Peninsula)
	resources) Documentation	and disinfestation equipment			
Who must be involved?	• Owners • Vineyard workers • Vineyard contractors and consultants • Visitors • Other contractors (electrical, irrigation, fertiliser, vineyard chemical resellers, winery, general deliveries) • Agency personnel	• Contractors • Vineyard staff	• Vineyard staff • Contractors • All industry personnel	• Office in charge of the visit • Cellar door manager • Vineyard manager and foreman • Whoever is being visited	• Local/State Government • All industry groups, organisations and involved people • Local TAFEs, educators • People living in/visiting the region

The protocols for reducing the risk of phylloxera infesting the regions were validated against seven other pests and diseases.

Pierce's disease and the glassy winged sharp shooter

- The glassy winged sharp shooter spreads Pierce's disease. The bacteria has a wide host range.
- The protocols developed for phylloxera wouldn't help, because it is a national quarantine issue.

Grapevine leaf rust

- The protocols developed for phylloxera should help, particularly those developed for plant material and people.
- It is a windborne disease, (but it would be difficult for the rust to reach Victoria via the wind).

Pacific spider mite

- It could be transported on tablegrapes.
- The protocols developed for phylloxera wouldn't help, because it is a national quarantine issue.

Fire ants

- It can be transported in moist soil (eg. in pot plants). Fire ants are more resilient than phylloxera.
- The protocols developed for phylloxera should reduce the risk, but it they wouldn't be 'fool proof'.

Dagger nematode/fan leaf virus

- It is already in Rutherglen.
- The protocols developed for phylloxera should help.

At the end of the workshop, actions identified were:

- Raise awareness, food for thought
- New information
- Visitor access to vineyard - sheep dip
- 'Balanced view needed' - what about restrictions for PEZ
- Don't be blasé
- Take nematodes seriously
- Visitor movement in vineyard - 'bird bath'
- Manage visitor access
- Turn light on - should use resistant stocks
- Concern about the 3 year lag phase
- Refocus
- Subcommittee on phylloxera awareness and management
- Care with contract services
- Access to vineyard - should we become a PEZ? How can it be done?
- Care about people - hospitality
- Vineyard planning in the first place (good article for new players) regarding access, services, run-off
- Quality risks - return on investment

Appendix 10. Report of Phase 2 regional biosecurity workshop at Dromana, Tuesday 18 February, 2003.

Hypothetical situations were acted out in role play exercises. The role plays were designed to test the draft biosecurity protocols developed at a workshop in Dromana on 3rd December 2003.

Some **issues** that arose from these role play exercises were:

- The draft protocols were not developed enough to be useful. They had potential to be quite helpful, but need further refinement.
- We should assume that there is no phylloxera within the Mornington Peninsula or Gippsland regions. The protocols should focus on restricting the entry of phylloxera into the regions.
- The protocols should be practical and should not become too administrative. The focus should be on the entry points into the vineyard which are a 'high risk', ie. control what you can!
- The checklist developed by the Yarra Valley group could be easily adapted to suit the needs of the Mornington Peninsula and Gippsland groups. This would also be desirable because it would help the three regions to have a coordinated approach.
- A consistent approach is needed for signage. Maybe GVWGIDC and DPI could play a role in putting together some suggested wording??

At the end of the workshop, actions were identified.

Actions by the group:

- Distribute the Yarra Valley guidelines/checklist to the Gippsland and Mornington Peninsula Associations. *Vanessa Hood to distribute in the week after the workshop.*
- Associations to 'tweak' the guidelines to meet their needs and to have the protocols accepted by their members. *By end of June 2003.*
- Guidelines to be put on DPI website. *Vanessa Hood and Greg Buchanan to organise, by end of July 2003.*
- Agreed wording for signage be developed and placed on the DPI website. *Vanessa Hood and Greg Buchanan to organise by July 2003.*
- Protocols to be disseminated and publicised. *GVWGIDC to assist associations to apply for RITA funding in July. Education campaign to take place in September -October -November 2003.*

Actions by individuals:

- Erect signs coming into vineyard
- Think about the risks
- Review the specific risks
- Erect signage on the gate
- Set up 'pickers' protocols
- Improve vineyard signage
- Let visitors know about the issue
- Improve the washdown area
- Erect better signage for visitors
- Watch the progression of the protocols
- Inform other staff involved in industry training about the workshop results
- Be involved in dissemination of the information
- Erect an information board for a winery walk
- Review S.O.P's
- Develop a portable footbath

Appendix 11. Report of Phase 1 regional biosecurity workshop at Trentham, Wednesday 4 December, 2002.

A hypothetical situation was discussed, which highlighted potential ways phylloxera could enter the Macedon Ranges/Sunbury/Ballarat regions.

Pathways identified for potential phylloxera infestation:

- Planting material*
- Machinery* - contractors, trellis, maintenance
- Pickers*
- Mulch
- Materials - vine guards, posts
- Contractors*
- Students*
- Self*
- SA winemakers (tourists)*

*Protocols were developed for the pathways denoted with an asterix in the list above (pickers, contractors, students, self and SA winemakers (tourists) were combined into a category called 'people'.

Possible effects on business, if phylloxera infested the Macedon Ranges/Sunbury/Ballarat regions:

- Reduce yields
- Costs increase (eg. Management)
- Restrict movement
- Stigma
- Market for grapes
- Decrease in value of business
- Reduced vigour
- Replant vines may lead to better yields
- Leads to increased investment in the winery
- New cultivars and vine trellis
- Fame!
- Cash flow a big problem
- Cost of replanting

Protocols developed to reduce the risk of phylloxera infestation in the Macedon Ranges/Sunbury/Ballarat regions.

Pathway of phylloxera infestation?	Machinery	Planting material	People
What is the hazard?	Fruit Infected soil Infected vegetative material Unfermented must Clarified juice Movement and sharing of equipment	Receiving infected material (nursery, cuttings, mother vines) Infected soils, mulches and vineguards Material - local sourcing Nursery protocols	Clothing, footwear Equipment (tools and secateurs), vehicles, plant material picked up or carried Pickers, tourists, wine industry personnel, students
Critical control	• Restriction of machinery to vineyard • Effective communication - signage (eg. Contractors) • Clean, inspect and disinfestation of equipment	• Nursery - certified material • Cuttings - certified material with own treatment • Material - local sourcing • Nursery protocols	• Signs, visitors report to X • Physical barriers (fencing etc) • Footbaths • Pickers - supply own overalls, induction • Supply equipment- secateurs, buckets etc • No uncontrolled vineyard tours • Associations - member awareness, assistance with protocols
Resources required	• Designated area for cleaning • Education of all staff • Heat treatment room • Having a protocol • Documentation	• Listing of accredited nurseries • Develop a checklist a) To be given to local government when a permit is issued for a new vineyard b) Associations to have checklist available	• Footbaths, overalls, adequate signage • Supply own equipment • Fencing • Sterilise buckets etc regularly • Time - briefing, training • Protocols
Who must be involved?	• All local vignerons • Contractors • DPI - for sign off on equipment • Transport drivers • Vineyard/winery/cellar door staff	• Regional associations • Individual vineyards • Government • Workers on vineyards • Educating everybody	• Winery and vineyard owners and workers • Service providers (contractors, pickers) • Associations • DPI • Journalists

The protocols for reducing the risk of phylloxera infesting the Macedon Ranges/Sunbury/Ballarat regions were validated against seven other pests and diseases.

Pierce's disease and the glassy winged sharp shooter

- Protocols developed for phylloxera would not work.
- It is a national quarantine issue, need to stop the bacteria and the insect getting into Australia (eg. via tablegrapes from California, illegally imported grape material).

Grapevine leaf rust

- The protocols developed for phylloxera should help.
- It could be transported on plant material, machinery, clothes, tablegrapes from the Northern Territory. It is a windborne disease.
- The habitat in Victoria may not be suitable for the rust.

Pacific spider mite

- It could be transported on grape plants, leaves. It is windborne and not in the country now.
- It is a national quarantine issue.

Fire ants

- It can be transported in nursery material, pot plants.
- The protocols developed for phylloxera should help, but it is also a State Quarantine issue.

Dagger nematode/fan leaf virus

- It is already in Rutherglen.
- The protocols developed for phylloxera should help.

At the end of the workshop, actions identified were:

- Include price to clean equipment when establishing or coming on site
- Include a disclaimer on any quotes given (this comment was a joke!!)
- Sign for vineyard, foot baths, scrubbing brush
- Sign from shed to the gate
- Pickers to clean their gear and use footbaths
- No unauthorised people in vineyards
- Extra sign (and extra barb wire!)
- Contract pruners - liaison, plus information about where contractors have been
- Know where visitors have been
- Pressure washer for between vineyards
- Ballarat association to use footbaths more and to have more information about the reasons for doing so
- Community awareness - government levies and new entrants to industry (permits?)
- Brochure (combined associations) for new vineyards
- GVWGIDC - set up/implement/follow up!
- Awareness for hobby viticulturalists
- Common 'clever' signs

Appendix 12. Report of Phase 2 regional biosecurity workshop at Trentham, Thursday 28 February, 2002.

Four hypothetical situations were acted out in role -play exercises. The role plays were used to test the draft biosecurity protocols developed at a workshop in Trentham on 4 December 2002.

ROLE PLAY	If the protocols were in place, would they have helped?	What needs to change to make the protocols more useful?
Wholesale nursery	Certified materia l from an AVIA accredited nursery would have stopped the 'backyard operation The protocols may not have been 100% effective in this scenario An audit path would be important	Educate retail nurseries (assume that industry nurseries are aware of their obligations) VWIA to work with nursery associations (+/- IDC support) to educate retail nurseries and develop protocols Need a checklist available for vineyards just starting up Education material to be available from councils Tax on ungrafted vines - so they are more expensive than grafted ones! The audit trail from nursery to nursery needs to be adequate
Contractor (carts bins, fruit and wine across Victoria)	The protocols would not have helped. Need: • Driver education/training course. Accreditation of truck companies and drivers (penalties?) • All bins to be washed and sterilised at end of each movement • Trucks to be washed and sterilised, as per phylloxera zones • Zone drop off and pick up points for bins?	Need to reject dirty bins or suspect ones OR you accept and clean/sterilise them yourself Type of bins with lids etc. System to control or QA program which is enforceable. Need to talk to wineries and growers - communicate and agree on protocols "Build yourself a castle"
Cellar door manager	Signs would have helped, but more is needed - physical barrier	Physical barriers in addition to signs Wider vineyard acceptance of protocols and education for the greater community Advise tour operators and bus companies about possible routes VWIA and regional associations need to co-ordinate education across regions (reporters, bus drivers, councils assisting) Promotion of a premium region includes promotion at a

ROLE PLAY	If the protocols were in place, would they have helped?	What needs to change to make the protocols more useful?
		low disease/pest risk Regional signage to keep pest and diseases out, promoting the region as ultra premium/low disease Education of all management levels (not just vineyard manager) is important Signs could be distributed by councils Association to push the issue (eg. Association rep could visit new vineyards) Association could vote on signage (paid for by their IDC levies)
Visit by the Deputy Prime Minister to the region	Do they have access to the site? Limit the area they have access to. Say 'no' to them accessing the vineyard. Confine them to a less open space, eg. photographs could be taken in the winery If they insist on visiting the vineyard, insist they follow the protocols (eg. use a footbath, car wash etc.) Yes, protocols mention signage, locked gates, footbath, carwash, but the visitors have to be educated about the protocols and their visit needs to be pre-arranged	Time-line, ie. Discussions need to take place before the visit Publicity about the vineyard protocols needs to be in government departments Take the opportunity to publicise the problems of vineyard disease Need to hire extra staff to direct the entourage Need to restrict access to the vineyard

At the end of the workshop:

Actions identified for the group as a whole:

- Spencer Field will survey the groups to follow up on signs. People will vote on signs. Should signage from different associations have common characters? Branding could be local- eg. 'Like wine? Don't kill the vine!" (short term goal - three weeks after the workshop)
- Local discussions about 'working together/trust' (short term goal - before vintage 2003)
- Region becomes a PEZ? What are the benefits and costs? (medium term goal)
- Distribute colour brochures, web addresses and the final report (medium term goal - June 2003)
- Three associations to get together on similar issues - help from local councils (medium term goal - will meet twice a year from mid June 2003)
- Broad education of wine bottle shops (long term goal)
- Approach other associations to get a regional 'hot box' (long term goal)
- Get all vineyards to be a member of the local association (ongoing goal)

Actions identified for individuals:

- Continue with more vigilance - no lousy roots!
- Remove one row of Cabernet sauvignon - near the fence
- Talk to staff and business contacts and make vineyard less accessible
- Re -build fence and wash down facility
- No uncontrolled vineyard visits, footbath
- Cleaning facilities, footbath and bleach
- Fence at front - blocks, signs
- Boundary fence (tall) to reduce access
- HACCP approach to risk reduction
- Reps to be instructed re: protocols
- Better signs, talk to visitors, foot bath
- Put up a 'for sale' sign!
- Signs - tactful??
- Signs - be vigilant with visitors

Appendix 13. Report of a regional biosecurity workshop at Mitchelton, Monday 2 December, 2002.

Participants were asked to comment on the existing Goulburn Valley Phylloxera Protocols (DRAFT):

- How do I know if my vineyard is infested?
- No 'hard' area in vineyards
- Don't really know what happens at receival end…accreditation needed?
- No policing - meaningless words on paper now
- Funding is sometimes hard to get
- No heat treatment room in Upton. A regional approach is needed.
- How do you keep people out of your vineyard?
- More awareness needed about protocols eg. To general public, water authorities, electricity companies, telecom, CFA. Need more emphasis on these authorities in the protocols.
- Maybe protocols need to go a bit further.

At the end of the workshop actions identified were:

- Will fence vineyard off
- All press isn't necessarily bad press (eg. of 'successful' case)
- Three associations will have similar protocols by vintage
- Fast tracking heat room
- Think more about visitors (eg. at festivals? Fencing?)
- Signage needs re -wording - need to talk with Plant Standards
- Think more about pickers (eg. where they park, hygiene (locked gate, put up signs, provide washdown area)
- More signs
- Incorporating phylloxera section in EMS
- Publication designed for service providers needed (perhaps the VWIA could be lobbied? Perhaps it could be developed as an extension of this IDC project?)
- Internal policy for service providers needs to be developed (with accreditation? How do we get evidence?)
- Need to increase awareness of protocols
- More consultation needed between service providers and the viticulture industry
- More control over who goes in and out of vineyard

Five hypothetical situations were acted out in role -play exercises. The role plays were used to test the existing Goulburn Valley Phylloxera Protocols (DRAFT)

ROLE PLAY	Did the protocols work? How?	Why not? What needs to change?
Leaf plucker	Yes, it does work if the vineyard manager/owner is aware of the protocols	Wording needs to change in *Cleaning Procedures for Vineyard Equipment and Machinery* section of the draft Code of practice designed for external suppliers/contractors is needed
Nursery (Spanish varieties)	No 1. Standard protocols were breached as he did not have a permit from DPI to remove plant material 2. Protocols should be distributed nationally throughout the horticultural industry, especially contractors, service providers, nurseries, health officers 3. Increase awareness of the protocol (eg. hand out a one page flyer)	1. Need to add a $10,000 fine to the protocol. 2. If there is a mandatory requirement, it must be mandatory 3. If there is a breach of the protocol, there must be an outlined approach to what exactly has to be done (Plant Standards requirements) 4. Must say to buy rootstock and vines from an accredited nursery 5. Stronger language is needed…use the word MUST 6. Need a process in place regarding communication…a 'step by step' approach to engage interested parties if there is suspected breach
Visit by the Deputy Prime Minister	Yes, but? 1. Because there is no control over the security personnel 2. There is no legal enforcement of the protocol 3. The trespass law only applies to keep people out	1. There needs to be a legal form of enforcement (an Act or Regulation?) 2. Need to change the wording to say 'must' clean shoes 3. Need to include 'disposable shoes' as an option
Tourism	No, because the protocol wasn't followed in the role play scenario 1. Clean and disinfect footwear, but the protocol doesn't mention clothing (should be added) 2. Group toured the vineyard before the potential exposure was identified	1. Visitors have arrived without us knowing where they have been 2. Access was permitted before any contamination risk was assessed 3. Need to check if visitors have been in problem area before coming to your vineyard (should be added to draft protocol) 4. Need to include what to do with any plant material brought in by visitors
Contractor	1. Can't shift whole fruit 2. Fruit needs to be crushed 3. Can transport bins within zone (steam cleaning or hot water dipped within zone) 4. Transport operator is not well informed in this protocol	1. More detail needed about signage in the protocol 2. Need a copy of the National Phylloxera Management protocol 3. Where can the truck go? Who does he report to? What signage is needed at the property? Contact name is needed for site visitation 4. The transport operator must know about the national and local protocols (eg. where to unload) 5. Bin owners should provide a certificate to the transport operator regarding cleaning of the bins.

Appendix 14: Participant evaluation from Phase 1 regional biosecurity workshop at Heathcote, Monday 24 June, 2002.

Region: Heathcote (Golf Club) Date: 24/6/02

NB. 23 evaluation sheets were completed.

Average group score (out of 5) for

The clarity of materials presented	4.3
The usefulness of the session for participants	4.4
The relevance of the session for participants	4.7
The understanding of the topic before the session by participants	3.7
The knowledge of the topic after the session by participants	4.5
Did the presenter seek interaction & react to the group's needs	4.7

Numbers who would recommend other people involved in viticulture attend a similar workshop in their region?

Yes	No	Unsure
23		

Numbers who would attend the follow up workshop?

Yes	No	Unsure
18	1	4

Reaction at end of the workshop

- Happy with the level of awareness out there
- Time well spent. Would be happy to attend further workshops provided they are as interactive and as informative as this one. Well done!
- A very worthwhile session. There is a worry about the people (growers) not in attendance
- Good, but keen to formulate protocols and continue this work.
- Problems were addressed - good that actions will be suggested specific to our area in 8-12 weeks.
- A very important topic, which needs to be addressed always.
- I think that it will go a long way to helping the industry to become more uniform.
- Determination to assist in implementation of pest and disease protocols.
- Very interesting.
- As a transport operator, found the information very useful and will be used in my company with continued confidence.
- Think about 4 signs for our spot. Talk to our workers regarding our specific sites.
- Satisfied
- Useful and has given insights in minimising the risk of a phylloxera infestation.
- Worthwhile
- Worthwhile and very important for the future.
- That information sessions for pickers, pruners etc are absolutely essential before employment companies provide casual short tern staff and or payrolling services.

Numbers who identified each benefit

New knowledge that is useful	17
New skill/techniques you can apply	8
A change of attitude towards biosecurity protocols	7
Increased understanding of the issues	19

Increased understanding of other people's opinions	13
Time to think	9
Little of no benefit	0

Other comments

- Very grower friendly meeting
- Great people, good information, plenty of tea
- Should help in developing regional understanding
- Well presented
- Please follow up with the next session as soon as possible
- It was most beneficial

Appendix 15. Participant evaluation from Phase 2 regional biosecurity workshop at Heathcote, Monday 24 October, 2002.

Region: Heathcote (Golf Club) **Date:** 24/10/02

NB. 14 evaluation sheets were completed.

Average group score (out of 5) for

The clarity of materials presented	4.2
The usefulness of the session for participants	4.5
The relevance of the session for participants	4.5
The understanding of the topic before the session by participants	3.5
The knowledge of the topic after the session by participants	4.1
Did the presenter seek interaction & react to the group's needs	4.5

Numbers who said the workshop assisted them with implementing biosecurity protocols

ON THEIR VINEYARD

Yes	No	Unsure
14		

IN THEIR REGION **(2 participants didn't answer this question)**

Yes	No	Unsure
11		1

Reaction at end of the workshop

- Enthusiastic - clear objectives
- We have just started to address important issues
- Everyone was very keen
- Worthwhile, but a lot more work to be done
- Lot of work to do, but look forward to doing it
- More work to be done, but this is a good starting point
- Happy to be part of it, hope to go forward
- Great start to the process. More work required on a local level
- More work needs doing. The association will follow this workshop up I am sure.
- Positive - let's go
- Positive. It assisted in identifying the need to develop a region wide approach rather than be tunnel visioned which we often tend to do
- Enthusiastic

Numbers who identified each benefit

New knowledge that is useful	10
New skill/techniques you can apply	4
A change of attitude towards biosecurity protocols	5
Increased understanding of the issues	11
Increased understanding of other people's opinions	9
Time to think	5
Little of no benefit	0

Other comments

- Well presented and informative. Good exchange of ideas.
- Worth the trip

- Uptake now the important bit
- The workshops have been very good and I feel honoured to have been invited
- Very well presented. Very interactive.

Appendix 16. Participant evaluation from Phase 1 regional biosecurity workshop at Hamilton, Friday 28 June, 2002.

Region: Henty (Pastoral and Veterinary Institute, Hamilton) Date: 28/6/02

NB. 12 evaluation sheets were completed.

Average group score (out of 5) for

The clarity of materials presented	5
The usefulness of the session for participants	4.6
The relevance of the session for participants	4.7
The understanding of the topic before the session by participants	3.0
The knowledge of the topic after the session by participants	4.5
Did the presenter seek interaction & react to the group's needs	4.8

Numbers who would recommend other people involved in viticulture attend a similar workshop in their region?

Yes	No	Unsure
12		

Numbers who would attend the follow up workshop?

Yes	No	Unsure
6		7

Reaction at end of the workshop

- Very interesting. Good to interact with an industry I don't usually have a chance to but may be working with in the future.
- A disease that I would not like to think that will ever be here, but we need precautions so this does not occur in our area.
- Maps are a great resource.
- I was pleased to have the opportunity to better my knowledge in this area.
- A better knowledge of phylloxera.
- Take more care with visitors and equipment.
- A clarity of perception of the difficulties involved in maintaining the PEZ and policing of the issue and how fragile our current status is.
- It was very timely as we plan to prune in 3 weeks and all 20 members can be instructed and protocols implemented. We will also audit/inspect our vineyard to identify and correct problems.
- Good to get head out of the sand.

Numbers who identified each benefit

New knowledge that is useful	11
New skill/techniques you can apply	6
A change of attitude towards biosecurity protocols	7
Increased understanding of the issues	12
Increased understanding of other people's opinions	7
Time to think	5
Little of no benefit	0

Other comments

- Excellent workshop.
- Our region needs a resume of the workshop to mail out to relevant businesses who did not attend.
- An enjoyable presentation. Thank you. Vanessa is a bit of a spunk too.
- Most useful and thought provoking. Good participant interaction and sharing of information.
- Useful and informative. Sets the scene for future work. Promotes (potentially) improved appreciation of wants/needs in this region.
- This is useful to small vineyards as we are very vulnerable with many visitors and low knowledge of most members. (They are just interested in the wine). By using the dangers of losing their investment will grab their attention and gain their co-operation to enforce the protocols.

Appendix 17. Participant evaluation from Phase 2 regional biosecurity workshop at Henty, Monday 2 September, 2002.

Region: Henty (Old Heywood Library) **Date:** 2/9/02

NB. 15 evaluation sheets were completed.

Average group score (out of 5) for

The clarity of materials presented	4.1
The usefulness of the session for participants	4.7
The relevance of the session for participants	4.5
The understanding of the topic before the session by participants	3.5
The knowledge of the topic after the session by participants	4.2
Did the presenter seek interaction & react to the group's needs	4.4

Numbers who said the workshop assisted them with implementing biosecurity protocols

ON THEIR VINEYARD

Yes	No	Unsure
15		

IN THEIR REGION

Yes	No	Unsure
14		1

Reactions at end of the workshop

- I felt a lot more members in the group were aware of what is expected
- Glad I came as I really didn't want to
- Very excited about the future of the region
- Confident
- Keen to get the system up and working
- Have to give more thought to all vineyard visitors. Signage at vineyard gate and ask questions before admitting visitors.
- Establishment of plan (individual, department, Henty Winegrowers Association) will not be easy. Confidence in all players cannot be guaranteed so this will be a gradual process.
- Good, but more needs to be done to implement the protocols.
- Concrete proposals and ideas finally getting going.
- Devoted, clear, determined, alerted
- Very educational

Numbers who identified each benefit

New knowledge that is useful	9
New skill/techniques you can apply	4
A change of attitude towards biosecurity protocols	7
Increased understanding of the issues	12
Increased understanding of other people's opinions	8
Time to think	8
Little of no benefit	0

Other comments

- I hope we can work as a group to get it to function. I hope we continue to get support from professionals as I think we will need it.
- Useful. Good to make the time. The Department role is useful, encouraging and supportive.
- Thanks for the support

Appendix 18. Participant evaluation from Phase 1 regional biosecurity workshop at Yarra Glen, Tuesday 25 June, 2002.

Region: Yarra Valley (Memorial Hall, Yarra Glen) Date: 25/6/02

NB. 13 evaluation sheets were completed.

Average group score (out of 5) for

The clarity of materials presented	4.1
The usefulness of the session for participants	3.7
The relevance of the session for participants	4.2
The understanding of the topic before the session by participants	3.4
The knowledge of the topic after the session by participants	4.4
Did the presenter seek interaction & react to the group's needs	4.7

Numbers who would recommend other people involved in viticulture attend a similar workshop in their region?

Yes	No	Unsure
13		

Numbers who would attend the follow up workshop?

Yes	No	Unsure
13		

Reaction at end of the workshop

- An unbiased protocol is essential and must be policed
- Good I can go home now
- Very beneficial
- Thirsty
- Very good idea - our region needs to implement protocols
- Another workshop/seminar, a lot more talking, will there be any action?
- Lots of unanswered questions/how do you set up a workable system? Have the Yarra Valley growers got a concern? Is there phylloxera?
- There seems to be a lack of concern judging by the low numbers to the workshop. Cost and logistics still the issue.
- Very hard to implement in this region.
- Good but more work to be done. Lots of unfinished business.
- Fair idea of what can be done should problems arise.

Numbers who identified each benefit

New knowledge that is useful	7
New skill/techniques you can apply	2
A change of attitude towards biosecurity protocols	4
Increased understanding of the issues	9
Increased understanding of other people's opinions	12
Time to think	2
Little of no benefit	0

Other comments

- Better notification of the event would have been good. I only heard about it via word of mouth.
- Networking

Appendix 19. Participant evaluation from Phase 2 regional biosecurity workshop at Yarra Glen, Thursday 31 October, 2002.

Region: Yarra Valley (Memorial Hall, Yarra Glen) **Date:** 31/10/02

NB. 15 evaluation sheets were completed.

Average group score (out of 5) for

The clarity of materials presented	4.7
The usefulness of the session for participants	4.5
The relevance of the session for participants	4.5
The understanding of the topic before the session by participants	4.0
The knowledge of the topic after the session by participants	4.4
Did the presenter seek interaction & react to the group's needs	4.7

Numbers who said the workshop assisted them with implementing biosecurity protocols

ON THEIR VINEYARD

Yes	No	Unsure
15		

IN THEIR REGION

Yes	No	Unsure
14		1

Reaction at end of the workshop

- Positive
- A good step ahead
- KISS Principal to protocols
- Good stuff
- Effective interaction
- Very relevant
- More hope than after last one
- Great to hear the high level of commitment to protocol development
- Positive
- Need to make a start, anything is better than nothing
- Positive - there is something we all can do
- More positively, action will take place

Numbers who identified each benefit

New knowledge that is useful	9
New skill/techniques you can apply	4
A change of attitude towards biosecurity protocols	5
Increased understanding of the issues	8
Increased understanding of other people's opinions	8
Time to think	5
Little of no benefit	0

Other comments

- Positive group interaction
- Well organised workshop
- Need to move forward
- There will be more help than I thought
- Good work!

Appendix 20. Participant evaluation from Phase 1 regional biosecurity workshop at Avoca, Tuesday 26 November, 2002.

Region: Grampians/Pyrenees/Bendigo (Blue Pyrenees, Avoca) Date: 26/11/02

NB. 22 evaluation sheets were completed.

Average group score (out of 5) for

The clarity of materials presented	4.4
The usefulness of the session for participants	4.5
The relevance of the session for participants	4.6
The understanding of the topic before the session by participants	3.1
The knowledge of the topic after the session by participants	4.4
Did the presenter seek interaction & react to the group's needs	4.6

Numbers who would recommend other people involved in viticulture attend a similar workshop in their region?

Yes	No	Unsure
22		

Numbers who would attend the follow up workshop?

Yes	No	Unsure
18		3

Reaction at end of the workshop

- Very worthwhile session
- Pleased to have attended - grateful for new information
- Lots of formalisation of ideas and protocols to be done
- Very useful afternoon - just enough info without being overloaded
- Useful and most applicable to everyday operations. Increased awareness of potential problems and acknowledge need to tighten some cleaning/disinfestation procedures.
- Had a warm fuzzy glow
- Very informative. Very good.
- Very enthusiastic response from participants.
- Use some of the practical applications - signs, phone numbers, general education of staff contractors etc.
- Good interaction amongst groups/ideas etc.
- Well presented, good discussion groups and open forums.
- Very informative with reasonably practical solutions to prevent phylloxera entering this region.

Numbers who identified each benefit

New knowledge that is useful	16
New skill/techniques you can apply	10
A change of attitude towards biosecurity protocols	11
Increased understanding of the issues	17
Increased understanding of other people's opinions	14
Time to think	5
Little or no benefit	0

Other comments

- Am considering developing into Quality/EMS systems through a risk management (disease) process.
- Good format - interactive group work valuable.
- Venue an asset. Conferencing with presenters/participants was a great benefit. BBQ and refreshments were very welcome!
- Protocols need to be designed, however a lot of this has already been done by the SA phylloxera board over the last 100 years. We should examine these and modify for our use – 'Why reinvent the wheel'
- Great work - please develop a pamphlet of some general principles that we can use to hand out to visitors/newcomers from these days - be great as a tool.
- What I have learnt here today I can take back to the transport industry and help educate people on phylloxera.

Appendix 21. Participant evaluation from Phase 2 regional biosecurity workshop at Avoca, Monday 17 February, 2002.

Region: Grampians/Pyrenees/Bendigo (Blue Pyrenees, Avoca) Date: 17/2/03

NB. 5 evaluation sheets were completed.

Average group score (out of 5) for

The clarity of materials presented	4.4
The usefulness of the session for participants	4.4
The relevance of the session for participants	4.2
The understanding of the topic before the session by participants	3.6
The knowledge of the topic after the session by participants	4
Did the presenter seek interaction & react to the group's needs	4.4

Numbers who said the workshop assisted them with implementing biosecurity protocols

ON THEIR VINEYARD

Yes	No	Unsure
5		

IN THEIR REGION

Yes	No	Unsure
3		1

Reaction at end of the workshop

- Disappointed with the poor attendance…was it partly my fault?
- Enthused
- Protocols need to be standardised and implemented
- Positive
- That we all have learnt more about phylloxera and the ways to implement those protocols (re: discussion with vineyard manager)

Numbers who identified each benefit

New knowledge that is useful	3
New skill/techniques you can apply	3
A change of attitude towards biosecurity protocols	2
Increased understanding of the issues	3
Increased understanding of other people's opinions	3
Time to think	2
Little of no benefit	0

Other comments

- Don't forget to get me the Yarra Valley stuff!
- The case studies/role plays were very ingenious and brought our many other relevant issues.
- More people would have been beneficial through input into the protocol established from the last meeting.

Appendix 22. Participant evaluation from Phase 1 regional biosecurity workshop at Dromana, Tuesday 3 December, 2002.

Region: Mornington Peninsula/Gippsland Date: 3/12/02

NB. 16 evaluation sheets were completed.

Average group score (out of 5) for

The clarity of materials presented	4.3
The usefulness of the session for participants	4.6
The relevance of the session for participants	4.4
The understanding of the topic before the session by participants	3.0
The knowledge of the topic after the session by participants	3.9
Did the presenter seek interaction & react to the group's needs	4.7

Numbers who would recommend other people involved in viticulture attend a similar workshop in their region?

Yes	No	Unsure
16		

Numbers who would attend the follow up workshop?

Yes	No	Unsure
15		1

Reaction at end of the workshop

- I did not understand phylloxera as much as I should
- Good session
- Realisation that many others are concerned of the risk to the Peninsula from phylloxera and other pests
- That we should address the problems of disease spread in the area
- Interested
- Worthwhile
- Positive. A little more worried about phylloxera
- Very good interactive session. Good networking opportunity
- Very useful
- Mornington Peninsula should go on and consider being PEZ
- Excellent education and relevance
- Fear and anxiety

Numbers who identified each benefit

New knowledge that is useful	15
New skill/techniques you can apply	2
A change of attitude towards biosecurity protocols	8
Increased understanding of the issues	13
Increased understanding of other people's opinions	11
Time to think	1
Little of no benefit	0

Other comments

- Excellent facilitator and presenter
- The idea of the establishment of a PEZ for Mornington is very attractive
- More reference material to buy or take away to read and use for planning
- Very good. Keep Grapecheque going and IDC
- Well done
- A well organised workshop. Good lunch
- Less breaking up into small groups which look at only one issue in depth, prefer a more general coverage.
- Thanks for your practical nature and enthusiasm!
- Good opener. Need to work on implementation.

Appendix 23. Participant evaluation from Phase 2 regional biosecurity workshop at Dromana, Tuesday 18 February, 2003.

Region: Mornington Peninsula/Gippsland Date: 18/2/03

NB. 10 evaluation sheets were completed.

Average group score (out of 5) for

The clarity of materials presented	4.0
The usefulness of the session for participants	4.3
The relevance of the session for participants	4.3
The understanding of the topic before the session by participants	3.4
The knowledge of the topic after the session by participants	4.4
Did the presenter seek interaction & react to the group's needs	4.9

Numbers who said the workshop assisted them with implementing biosecurity protocols

ON THEIR VINEYARD

Yes	No	Unsure
7	1	

IN THEIR REGION

Yes	No	Unsure
10		

Reaction at end of the workshop

- To continue education and dissemination of information through the local association
- Endeavour to pursue these protocols
- Good progress was made
- Valuable discussion of risks and their management
- Better understanding of the role of Chisholm in assisting local wine industry to disseminate information/protocols re: biosecurity issues
- A bit reassured by the overall perception of risk of becoming a phylloxera zone
- Worth the time
- Positive. Need for regional awareness is huge.
- More useful than I thought

Numbers who identified each benefit

New knowledge that is useful	7
New skill/techniques you can apply	2
A change of attitude towards biosecurity protocols	4
Increased understanding of the issues	9
Increased understanding of other people's opinions	9
Time to think	4
Little of no benefit	0

Other comments

- Thanks for the opportunity to participate
- We need more quantitative information
- Helped to focus attitudes to the risks
- Fantastic presenter

Appendix 24. Participant evaluation from Phase 1 regional biosecurity workshop at Trentham, Wednesday 4 December, 2002.

Region: Ballarat/Macedon Ranges/Kyneton/Sunbury **Date:** 4/12/02
NB. 14 evaluation sheets were completed.

Average group score (out of 5) for

The clarity of materials presented	4.4
The usefulness of the session for participants	4.5
The relevance of the session for participants	4.6
The understanding of the topic before the session by participants	2.9
The knowledge of the topic after the session by participants	2.3
Did the presenter seek interaction & react to the group's needs	4.9

Numbers who would recommend other people involved in viticulture attend a similar workshop in their region?

Yes	No	Unsure
15		

Numbers who would attend the follow up workshop?

Yes	No	Unsure
14		1

Reaction at end of the workshop

- Confidence - discussing about workshop
- Very informative and relevant
- To put my sign up so people know that the vineyard is off grounds unless we have cleared them
- Everyone involved - ready to change
- A much great awareness of the problems and means of control of phylloxera
- Very informative as I knew very little about the subject previous to the meeting
- To take some action
- Good information - clarified some issues. Well worth it. Thanks
- Good info - slack turn up by Macedon growers.
- Sorry could not get more here
- Very effective message with a constructive direction
- Confidence in what I am doing, encourage other wineries to be involved
- There is a lot of work to be done to improve awareness of the problem
- Useful/informative. Items to action even now.

Numbers who identified each benefit

New knowledge that is useful	13
New skill/techniques you can apply	8
A change of attitude towards biosecurity protocols	6
Increased understanding of the issues	12
Increased understanding of other people's opinions	11
Time to think	7
Little of no benefit	0

Other comments

- More prizes
- Good pace for info and workshopping
- Thank you very much

Appendix 25. Participant evaluation from Phase 2 regional biosecurity workshop at Trentham, Thursday 28 February, 2002.

Region: Ballarat/Macedon Ranges/Kyneton/Sunbury Date: 28/2/03
NB. 14 evaluation sheets were completed.

Average group score (out of 5) for

The clarity of materials presented	4.4
The usefulness of the session for participants	4.6
The relevance of the session for participants	4.5
The understanding of the topic before the session by participants	3.9
The knowledge of the topic after the session by participants	4.3
Did the presenter seek interaction & react to the group's needs	4.7

Numbers who said the workshop assisted them with implementing biosecurity protocols

ON THEIR VINEYARD

Yes	No	Unsure
14	1	

IN THEIR REGION

Yes	No	Unsure
13		1

Reaction at end of the workshop

- To be aware of the dangers of running a vineyard
- I found the workshop very useful and of value to all of the people attending
- The local associations will need to drive change in attitude amongst local growers first
- More informed and conscious of this disease
- Felt confident with people involved but have some doubts involving and convincing some others not present
- Encouraged to react
- Need to get into action
- It was useful
- Identified need for protocols - for all vineyards?
- Much better than I expected - could take away practical ideas
- Good
- Warm and fuzzy
- Get my vineyard protocols in place
- Let's get everyone involved

Numbers who identifie d each benefit

New knowledge that is useful	6
New skill/techniques you can apply	7
A change of attitude towards biosecurity protocols	8
Increased understanding of the issues	10
Increased understanding of other people's opinions	9
Time to think	6
Little of no benefit	0

Other comments

- This needs to be provided back into regions so that real progress can be made
- Vanessa did a good job of leading/facilitating a diverse group. Good to have a reliable source of information.
- General public awareness may be best of helped from a State/National campaign

- Well done Vanessa and others
- Thanks very much - really enjoyed it and got a lot out of it. Input from Greg and Vanessa was great
- Ta
- Thank you for pushing us to introduce protocols.

Appendix 26. Participant evaluation from a regional biosecurity workshop at Mitchelton, Monday 2 December, 2002.

Region: High Country/Goulburn Valley/Strathbogies Date: 2/12/02

NB. 23 evaluation sheets were completed.

Average group score (out of 5) for

The clarity of materials presented	4.8
The usefulness of the session for participants	4.6
The relevance of the session for participants	4.4
The understanding of the topic before the session by participants	3.6
The knowledge of the topic after the session by participants	4.6
Did the presenter seek interaction & react to the group's needs	4.9

Numbers who would recommend other people involved in viticulture attend a similar workshop in their region?

Yes	No	Unsure
23		

Numbers who would attend the follow up workshop? (3 participants didn't answer this question)

Yes	No	Unsure
17		3

Reaction at end of the workshop

- Very informative
- More awareness to issues
- A lot more work is required
- Went away with better understanding
- Well worth while. A lot of actions for my company.
- That the best the main weapon for the health of the industry is awareness and for us involved in this industry to perpetuate that awareness and enforce the protocols.
- Positive
- Further work in preparing common protocols for the 3 regions.
- An excellent day.
- Need more signage at our vineyard. Good groups, plenty of information. Well done.
- Informative, a good opportunity to interact with other people.
- Need to look at working in with managers.
- Very informative. I found this very beneficial as I can include this information in my EMS workshops to increase awareness on phylloxera.
- I need to do more in my vineyard and in making others aware of the issue.
- Need to move from phylloxera to other biosecurity threats.
- Need to address various issues and not just talk.
- Good to get protocols same across 3 regions.

Numbers who identified each benefit

New knowledge that is useful	17
New skill/techniques you can apply	8
A change of attitude towards biosecurity protocols	6
Increased understanding of the issues	22
Increased understanding of other people's opinions	21

Time to think	10
Little of no benefit	0

Other comments

- Well run, good group dynamics.
- Very very useful and will lead to great co-operation between the 3 associations. Hopefully will also lead to standardised protocols statewide.
- Very worthwhile.
- Thank you
- Very good. Keep up the great work.
- Very useful, but we need to make more people aware of the issues.
- Session should have been advertised as a phylloxera workshop.