

**Wine
Australia
for
Australian
Wine**

Project DED 1701

Integrated Management of Established Grapevine Phylloxera

**Project Industry Reference Group
Terms of Reference**

1. Background/Context

Grapevine phylloxera is a serious insect pest of grapevines worldwide and a major endemic biosecurity threat to the viticulture industry in Australia. A phylloxera infestation directly impacts the level of profitability for grape producers. Once a quarantine zone is established to prevent phylloxera spread, movement of equipment and in vineyards is limited and there are implications for grapegrowers selling their grapes. These restrictions impose extra costs on growers in addition to loss of production caused by the pest. Once a vineyard is infested with phylloxera, the only way to alleviate its impact on grape production is to replant on resistant rootstocks. This can cost up to \$50-\$60K per hectare and result in lost production for 4-5 years.

Phylloxera is an insect that destroys vines by feeding on their roots, and is readily spread by movement of planting material, machinery and people between vineyards. There have been several hundred genetic strains of phylloxera documented worldwide, with 83 strains thus far identified in Australia. Although historically limited in its distribution, being restricted to specific quarantine areas in Victoria and NSW, phylloxera has been increasing its geographic range in Australia in the last 15 years. Recent detections have required revision of quarantine boundaries to include additional grapegrowing properties. It therefore poses a major threat to other winegrape growing regions, which still predominantly contain highly susceptible ungrafted European grapevines.

The reasons for the recent increase in spread of phylloxera are still unclear, but are most likely due to quarantine breakdown, poor detection rates, slow uptake of resistant rootstocks, lack of options for control of phylloxera and lack of knowledge of grapevine phylloxera biology. Only through addressing these five key factors can we hope to effectively manage and control the spread of phylloxera, now and into the future. This collaborative project aims to develop an improved integrated approach for managing endemic strains of grapevine phylloxera, by building on the success of previous work by DEDJTR on endemic phylloxera strains and introducing new tools for detection and surveillance.

2. Project objectives

There are five key objectives of the research:

1. **IMPROVED QUARANTINE.** By completing the scientific validation process for the National Phylloxera Management Protocol (NPMP) through rigorous testing of disinfestation treatments against seven genetically diverse endemic phylloxera strains.
2. **NEW AND IMPROVED TOOLS FOR EARLY DETECTION.** Developing early detection approaches using (i) novel odour-sensing approaches (sniffer dogs and electronic noses), (ii) comparative evaluation of grower friendly passive surveillance systems, and (iii) new molecular tools for in-field diagnostics and biotyping (via aligned projects).
3. **ENABLING STRAIN-RELATED ROOTSTOCK SELECTION.** Gaps in strain-specific rootstock recommendations will be addressed by laboratory and field screening of newly emerged phylloxera strains against widely used phylloxera-resistant rootstocks. A new 'strain-specific' geographically based phylloxera distribution map will be developed to guide regional recommendations for resistant rootstock genotypes.

4. RE-EVALUATING BIOCONTROL OPTIONS. Conducting a detailed desktop study that evaluates the potential for phylloxera biocontrol through (i) classical biological control using natural predators from the native range, (ii) inundative biological control such as the mass application of parasitic wasps or fungal pathogens, and (iii) conservative approaches that manipulate natural predators to enhance control at critical times.
5. PHYLLOXERA BIOLOGY – KNOWLEDGE GAPS. Factors which influence the spread and geographic distribution of endemic strains will be assessed in controlled temperature environments and through field-based surveys.

3. Function of the Industry Reference Group

The primary function of this Industry Reference Group is to provide industry guidance and direction to the project team from DEDJTR and its collaborators who are responsible for the delivery of the project. The Industry Reference Group will also provide feedback to Wine Australia on the project and future directions for phylloxera research in Australia

The Group is an advisory and coordinating body and has no authority or power to make any decisions that will legally bind a Party or to vary the terms of the Project Agreement.

4. Roles of the Phylloxera Project Industry Reference Group

The role of the Industry Reference Group is to:

- Ensure the outcomes of the project will benefit the Australian wine industry and regulatory agencies;
- Identify mechanisms to enable project outcomes to be extended and delivered to optimise value for industry;
- Provide strategic guidance on the direction and approaches used by the project team;
- Be an advocate for the project outcomes to the broader Australian wine industry and other interested parties;
- Review the anticipated outcomes of the project and provide strategic guidance to the research team and Wine Australia as to future research work required on phylloxera.

5. Membership and meetings

It is recommended that the Phylloxera Industry Reference Group be comprised of the following:

Industry

- Ben Harris – Treasury Wine Estates
- Liz Riley – NSW Wine / viticulture consultant
- Brett McClen – Brown Brothers
- Andy Clarke – viticulture consultant
- Nick Dry – Chair of Vine Industry Nursery Association
- Damien Sheehan – Mt Langi Ghiran / Victorian Viticulture Biosecurity Committee

Other

- Daniel Mansell – Agriculture Victoria
- Nick Secomb – Biosecurity SA
- Inca Pearce / Suzanne McLoughlin – Vinehealth Australia
- Mark Krstic – Australia Wine Research Institute
- Anna Hooper – Australian Grape & Wine
- Harley Smith – CSIRO
- Sharon Harvey – Wine Australia

Convenor/Chair of these meetings will be Inca Pearce (Vinehealth Australia)

Minutes and Meeting Papers – the minutes of each Industry Reference Group meeting will be prepared by the Chair. Papers will be circulated five working days before the commencement of the meeting and minutes provided within one month of the completion of the meeting.

Timing of Meetings –

- November 2019
- June 2020

Proxies to Meetings – members of the Industry Reference Group may nominate a proxy to attend a meeting if the member is unable to attend.