



Trunk Disease Management Workshop. “Understanding the big picture”



FINAL REPORT to
GRAPE AND WINE RESEARCH & DEVELOPMENT CORPORATION

Project Number: **RT 02/45-5**

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Executive summary:

Trunk diseases have been identified in many viticultural regions in Australia, however little information is available on their impact on grapevines in NSW. The grape and wine industries in regions such as the Upper and Lower Hunter Valley and Mudgee are becoming increasingly concerned about the impact that these diseases may have on the long term productivity and sustainability of vineyards. Concerns have also been raised regarding the increased stresses imposed on vines and whether this plays a role in predisposing them to infection by these diseases. An understanding of the effects of these diseases is needed to enhance current best practice for sustainable grape production.

Two workshops were held on Trunk disease management “Understanding the big picture”, in the Upper Hunter Valley and Mudgee wine regions. Information was presented on Petri disease (Black goo), Esca, Eutypa dieback and Botryosphaeria (Bot) canker and dieback. Approximately 140 grape and wine industry personnel attended the workshops held in the last week of May at Rosemount Estate in Denman and approximately 65 attendees were present at the Rural Education Centre in Mudgee. The workshop presenters were Drs George Leavitt (expert farm advisor, University of California Cooperative Extension Service), Daryl Joyce and Jacky Edwards (Department of Primary Industries, Victoria, CRCV program 2.2.1) Mark Sosnowski (South Australian Research and Development Institute), Sandra Savocchia (National Wine and Grape Industry Centre) and Vera Sergeeva (NSW Agriculture). The workshops were chaired by Tony Somers in Denman and Clarrie Beckingham in Mudgee, both district viticulturists with NSW Agriculture. Daryl Joyce, Jacky Edwards and Mark Sosnowski are members of CRCV program 2.2.1, “Managing grapevine trunk diseases”. Support from the industry associations including the Hunter Valley Vineyard Association, Upper Hunter Winemakers Association and the Mudgee Wine Grape Growers Association allowed both regions to benefit from the workshop and associated farm visits. It also provided experts working in the field of Trunk Diseases to exchange ideas and forge further cooperative links as well as give growers practical suggestions on management.

Background:

Research through the CRCV has made some progress in research to develop a detailed understanding of the biology of trunk diseases, improve diagnosis and to formulate management strategies. This new information however needs to be synthesised with the experience and expertise of growers to further develop practical management techniques. This work however has not addressed the occurrence, distribution, impact and control of Botryosphaeria canker, a disease that appears to be widespread in the region.

Potentially, grapevine trunk diseases could pose the biggest threat to the sustainability of grape production in Australia. This is becoming apparent in both the Hunter and Mudgee regions at least and probably across the country and internationally. Productive vineyards are showing signs of decline, particularly in older vines.

This project successfully conducted two practical workshops aimed at developing a detailed understanding of the biology of trunk diseases. It took a holistic approach to the problem by active involvement of growers interacting with researchers in the CRCV program 2.2.1 and other researchers working on wood rot pathogens in NSW, as well as from California.

In 2002, a survey was conducted in the Hunter and Mudgee wine regions to determine the occurrence of the grapevine trunk disease Eutypa dieback (Creaser M, Savocchia S, Hitch C and Wicks T. *Aust and NZ Grapegrower and Winemaker* 424, May 2003). Extensive sampling for foliar symptoms of the disease and wood samples could not detect Eutypa dieback from any of the sampled vineyards and the fungus, *Eutypa lata*, could not be isolated from the wood samples taken from the regions. However, some fungi were recovered and preliminary identification suggests that species of *Botryosphaeria* may be associated with dead wood. This survey supports diagnostic work undertaken by NSW Agriculture that demonstrated that Botryosphaeria canker, is a widespread disease and could be contributing to decline of grapevines in this region. Field inspections in the Lower and Upper Hunter as well as Mudgee during the week, further confirmed the presence of “non-*Eutypa*” dieback symptoms in vineyards ranging in age from 120 to 8 years old. The problem was particularly prominent in Chardonnay in the Upper Hunter but was widespread in other varieties and areas visited.

Work on the occurrence, distribution, effects and control of similar *Botryosphaeria* sp. in California, Arizona and Northern Mexico has been undertaken by George Leavitt from the University of California. His advice and research was particularly valuable both from the diagnostic as well as the management of these wood diseases. Funding for his travel was provided by the local association.

The original application envisaged that the workshops would be followed up by field trials aimed at implementing and validating control strategies developed as an outcome of the workshop. This component of the project was also not funded; however a joint RITA application with the Mudgee and Hunter growers will be submitted in the future.

Objectives, Results and Discussion:

The project successfully conducted workshops in the Upper Hunter and Mudgee to address the issues facing growers on the management of trunk diseases. It included the factors and management options that could be contributing to the problem. The evidence from other crops that stress can predispose plants to *Botryosphaeria* was presented by Dr D Joyce.

The workshop was structured to give the researchers an opportunity to present their findings as well as inspect vineyards showing symptoms. Interaction with growers aimed at developing practical management strategies to minimise the impact of these diseases was very successful.

The timing of the workshop at the end of May, gave growers the chance to implement and strategise during the winter pruning season and evaluate success during the following growth period. The holistic approach to management that was the theme gave the growers an understanding that the diseases should not be looked at in isolation from the environment and any predisposing stress factors that could accelerate the decline.

The research team presented information in their area of expertise and include Daryl Joice and Jacky Edwards on esca and black goo. Mark Sosnowski on Eutypa. Sandra Savocchia and George Leavitt on *Botryosphaeria* disease as well as soil health related to these diseases.

The workshops identified clear gaps in the knowledge on how to manage these diseases and there is a pressing need to establish some practical guidelines that the industry can adopt. These guidelines will hopefully be tested with further funding from GWRDC and CRCV.

Outcome/Conclusion:

The outcome of the project was that the detailed information on the latest research into the management of trunk diseases was presented to the industry in two regions. Adoption has been rapid with the industry implementing recommended practices during the dormant season. The project was well under the budget allocated. This was made possible due to the generous cash and in kind contributions from industry and Southcorp Wines as well as the GWRDC. Further RITA submissions are planned between the Hunter and Mudgee regions on this common problem.