

Managing grapevine trunk disease – an integrated adoption process

Adoption Impact

Overview and summary of impact

Warren and Sue Smith operate [Pyramids Road Wines](#) in the Granite Belt region of southern Queensland. Their focus is ‘on the production of high-quality, low volume wines’. They also state that ‘small scale production means most operations are hands-on – from pruning, training, picking in the vineyard to basket pressing, bottling and labeling in the winery’. They produce several red, white and rosé varieties and styles.

As a direct result of winery visits, workshops and practical demonstrations from experts in trunk disease the Smiths have progressively been reworking their vineyard to both fix the problem of trunk die-back and implementing preventative mechanisms to avoid the problem in the future. This early intervention, taking samples from the vineyard, having them analysed, and then showing the Smiths what to do about it meant the impact has been huge, ‘they couldn’t believe how much of a difference it made to the vineyard’.



The situation

Grapevine trunk diseases such as eutypa and botryosphaeria dieback contribute to grapevine decline, reducing productivity and longevity, causing considerable economic loss to the Australian wine industry. In 1999 it was estimated that eutypa dieback cost South Australian growers up to \$2800 per hectare

through lost production (Wicks and Davies, 1999). More [recent case studies](#) listed on the Wine Australia website show yield increases from reworking eutypa-affected vines from 3.5 t/ha to 7.0 t/ha (Adrian Hoffman) and from 2 t/ha to over 7 t/ha (Karl Schiller).

Trunk pathogens infect vines through pruning wounds, colonise woody tissue and cause dieback of cordons and trunks. Management of trunk diseases is based on removing infected wood material and preventing infection through pruning wounds.

In the granite belt in Queensland, the main cause of trunk disease is the fungus *Botryosphaeria*.

Connection with research and extension activities

In November 2013 a technical delegation from the South Australian Research and Development Institute (SARDI) and the National Wine and Grape Industry Centre (NWGIC) undertook a deliberate three-pronged approach to assisting growers in the Granite Belt – visiting vineyards to assess the problem, collecting samples and having them tested; running a technical workshop; and farm walks with practical ‘hands-on’ demonstration of how to fix the problem. There is also a very good report on the 2013 Queensland study tour that led to the Smiths progressively reworking their vineyard.

Details of the impact

Survey – understand the issue and prevalence

Thirteen vineyards (55 blocks) were initially inspected in November 2013 across two Queensland wine regions, including the Smiths’ block. On each block, 200 vines were visually assessed for symptoms of dieback (i.e. two or more spurs dead) and the presence of foliar symptoms characteristic of dieback. Samples of wood with dead tissue were collected where symptoms were observed and taken back to the NWGIC laboratory in Wagga Wagga for diagnosis.

Workshops – convey the solutions

Workshops were held and a summary of the survey results provided, followed by a comprehensive presentation on managing dieback, based on research at SARDI, NWGIC and around the world over the past decade. The workshops were concluded by outlining practical recommendations for managing grapevine trunk diseases in Australia.

Vineyard walk – demonstrate the strategies

Following the workshop, a walk was taken in the vineyard with growers to observe vines with trunk disease symptoms and to directly demonstrate control strategies for trunk diseases.

‘Without these hands-on demonstrations, we wouldn’t have had the confidence to rip into the vines and go as hard as Dr Mark Sosnowski was suggesting’, Sue Smith said.

Relevance to others

The approach taken by Dr Mark Sosnowski and his colleagues is applicable to many other vineyard issues. It also lends itself ideally to regions seeking support from Wine Australia’s Regional Program to implement programs that deliver knowledge and skill enhancement and practice change to levy-payers in vineyards and wineries.

There is an excellent best practice manual for grape growers and viticulturists produced by Wine Australia [‘Best practice management guide’, Version 2.0, July 2019, Grapevine trunk disease.](#)