fact sheet № 2

EUTYPA DIEBACK

DISEASE MANAGEMENT

WHAT IS EUTYPA?

Eutypa dieback is caused by the fungus *Eutypa lata* and is one of the major trunk diseases of grapevines. Eutypa occurs worldwide in wine regions that exceed an annual rainfall of 350mm. In Australia, eutypa was first detected in the 1930s and is now widespread. Grapevines can become infected by eutypa through fresh cuts such as those made during pruning or reworking, causing a significant impact on the productivity and profitability of grape growing. The fungus grows slowly, causing stunted shoots and eventually the demise of affected vines.







HOW DO I CONTROL IT?

Pruning

- Pruning should be timed to avoid rainfall events, including immediately prior, during and following wet weather due to increased spore release. Spores can be released up to 36 hours after rain or overhead irrigation.
- Avoid manual desuckering in and prior to wet weather.
- Either prune early in winter when spore production is low or late in the season when wounds heal more rapidly due to higher temperatures and sap flow.
- Avoid horizontal cuts when pruning in favour of angled cuts, as moisture is less likely to pool on a sloped surface area. Limit the severity of the angle, as it creates a greater surface area.
- Infection levels can be reduced by double pruning, which involves mechanical pre-pruning in early winter leaving long spurs, followed by hand-pruning to short spurs in late winter/spring.
- While transmission of the fungus via pruning tools presents a low risk, maintain clean tools between blocks and vineyards.

Wound protection

- Protect wounds via the application of paints, fungicides and biological control agents. Paints are recommended on large wounds, while spraying fungicide is an efficient option for widespread pruning wounds. Use high spray volumes (600 L/ha), with nozzles directed at the wound zone.
- Products that can be used to paint wounds include acrylic paint, Greenseal™ (containing tebuconazole) and Garrison Rapid®.



- Emblem® (fluazinam) and Gelseal™ (tebuconazole) are registered for eutypa protection and should be applied post pruning with a fungicide spray unit as per label instructions. Registration of pyraclostrobin is currently in progress. Current research is investigating the optimal application timeframe.



Malcolm Parish

"Good vineyard hygiene is paramount after reworking to prevent reinfection. Disease harbours in dead wood and can reinfect the vineyard during wet weather, so it's important not to leave infected plant material in vineyard rows or headlands. We always take particular care after reworking to remove and burn all infected wood."



- Biological control agents include the fungi *Trichoderma atroviride,* registered as Vinevax™, and fresh garlic juice, which can be useful options for organic vineyards. Biological control agents offer long-term protection, however they may require 1-2 weeks to colonise the wound, leaving it susceptible to infection.

Monitoring

- Look for leaf and shoot symptoms on susceptible cultivars, top-worked vines or those with large pruning wounds. Older or stressed vines are more likely to show symptoms. In spring, tag any vines showing foliar symptoms and record the findings.
- In winter, check vines for signs of canker development near pruning scars (if leaf and shoot symptoms have been observed previously). A diagnostic laboratory can identify the fungus in wood samples.
- As leaf and shoot symptoms do not occur every growing season, monitoring of eutypa is a long-term activity.

Treatment: Rework or remove?

- Eutypa is managed either by reworking or removing and layering or replanting the vine. Reworking involves remedial surgery, where infected wood is cut out and vines retrained from lower shoots.

Reworking

- Where cordons are affected, remove dead wood as well as 10cm of healthy tissue and retrain watershoots.
- Where the infection has progressed into the trunk, saw off the trunk wood until the wedge-shaped stained zone is no longer visible. Cut 10cm below the last sign of stained tissue to ensure all infected wood is removed.



Ben Mitchell

"Generally at Taylors Wines we cut the vines just below the crown and then lop the vine trunk 30cm above the ground. While this may seem extreme, we find all vines, except Cabernet Sauvignon, sucker well. This process gives uniformity of vine structure and fruit quality going forward."



- After reworking, a paint or fungicide should be applied by hand. The fungicide treatment can be applied up to several days following reworking, once sap flow has subsided.
- While most surgery occurs in winter, if reworking in spring, a second application may be required due to higher sap levels.
- Large pieces of dead wood should be removed from the vineyard floor and burnt or buried. Small prunings that break down quickly are not considered a disease risk.

Treatment considerations

- Older vines may struggle to revive once cut, especially Cabernet Sauvignon.
- Some fruit scorching may occur in the year following treatment due to a reduced canopy.
- If replanting, ensure rootlings are sourced from a reliable source.
- The estimated cost of total removal and replanting is $45,000/ha over six years, compared to $10,000/ha over two years for the cost of remedial surgery, running a new cordon wire and retraining.



Dick Bryksy

"If you're going to rework a block, leave water shoots that are low on the trunk to sucker for one to two seasons before the remedial surgery. Spurs can be established prior to removing the vine, which can lead to an earlier return to production and is particularly useful in varieties which tend to have trouble reshooting, such as Cabernet Sauvignon."



What other research or information is available?

Eutypa Dieback factsheets and other resources http://research.wineaustralia.com/resource_categories/eutypa-dieback/

Agrochemicals registered for use in Australian Viticulture http://www.awri.com.au/industry_support/viticulture/agrochemicals/agrochemical_booklet/

Wine Australia for Australian Wine

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