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Effect of bentonite fining on aromatic thiol concentrations in Sauvignon blanc

The aim of this study was to determine the effect of bentonite fining on wine volatiles, including aromatic thiols. It was found that bentonite fining can have a significant effect on the concentration of volatile thiols and that the timing of addition is crucial. Wines that were fined after fermentation had higher thiol concentrations than wines fined with the same dosage bentonite during fermentation. The researchers also found that a lower concentration of bentonite was needed to achieve protein stability by fining finished wines rather than must during fermentation. Read more

Relating expert quality ratings of Chardonnay to volatile composition and production method

In this study 83 Australian Chardonnays were sensorially evaluated and scored by eight industry experts. The wines were then analysed for their volatile compounds and their production methods were documented. *In general* the expert judges scored the wines as follows:

- The older vintage scored better than the younger vintage
- The wooded wines scored better than the unwooded wines
- The fruitier wines scored lower than the less fruity wines
- The wines that had higher concentrations of "more typical Chardonnay aromas" scored lower than the wines with the higher oak lactones
- Most of the higher priced wines scored higher than the lower priced wines

Read more

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Sensitivity of grapevines to water availability, temperature and CO_2 concentration

The aim of this study was to assess how sensitive different phenological stages of the grapevine is to temperature as well as to investigate how factors such as CO_2 concentration and water availability affect this relationship. The researchers found that dormancy breaking and flowering were strongly dependant on spring temperature, while neither variation in temperature during the winter nor precipitation affected budburst date. Experiments indicated berry development is very sensitive to both temperature and CO_2. In general, water deficit delayed maturity. The knowledge gained in this experiment can help to predict the effects of climate change (rising temperatures, rising atmospheric CO_2 and changing precipitation patterns) on grapevine physiology. This will allow producers to put strategies in place to manage grapevine stress caused by climate change. Read more

Stem xylem characterisation for Vitis drought tolerance

In this study, different Vitis species were studied in relation to their expected drought tolerance using reflectance spectroscopy. This method was demonstrated to be a useful technique for drought tolerance phenotyping to predict the expected drought tolerance of a species. This means it can be applied for preliminary selection of new rootstocks or cultivars. Wood composition variation appeared to be correlated with the water stress susceptibility of the plant and hence wood hydrophobicity was studied further. The study found that hydrophobic compounds (such as suberin and waxes) play an important role in water use efficiency and it seems that a hydrophobic barrier in the xylem tissue is a protective mechanism against water stress. Read more

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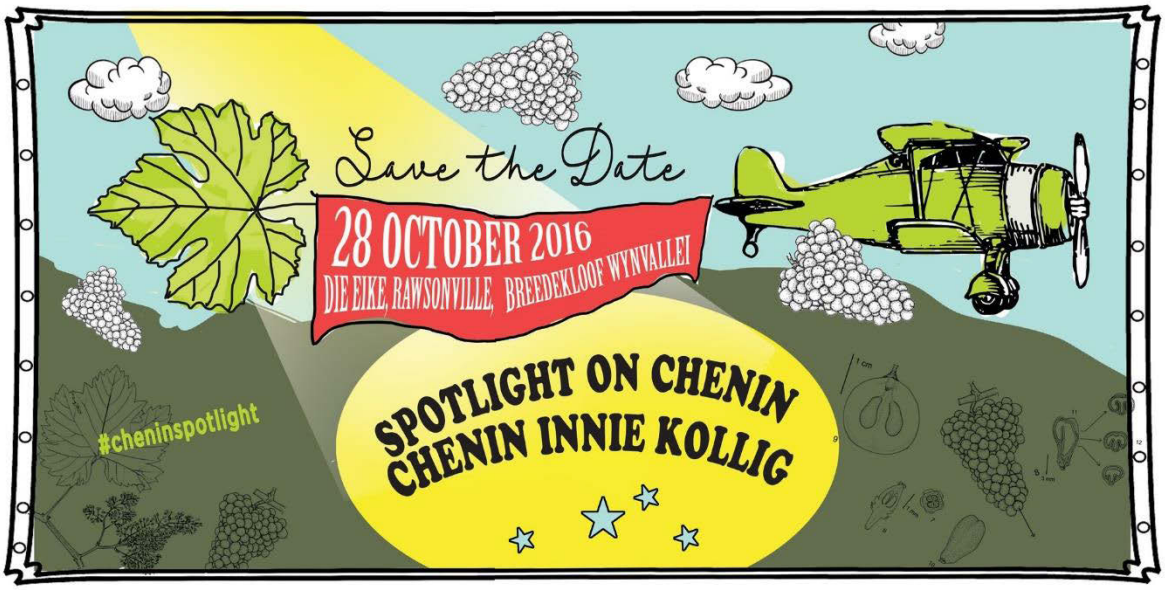
Adaptation of a plant pathogen to partial host resistance: selection for greater aggressiveness in grapevine downy mildew

Very little is known about the effects of partial host resistance on multiple phenotypic traits and evolutionary strategies in pathogens. In this study, isolates of downy mildew was sampled from both susceptible and partially resistant grapevines and cross-inoculated with four grapevine hosts. The neutral and adaptive genetic differentiation of five quantitative traits relating to pathogen transmission was studied. The results will help researchers predict, more accurately, the fitness trajectories for downy mildew pathogens. (Biological fitness refers to an organism's capacity to produce offspring). Understanding how pathogen quantitative traits evolve in response to host selective pressures is essential for the development of durable deployment strategies for resistant crops. Read more

Upcoming event: Spotlight on Chenin

Registration will open on the Chenin blanc Association website soon.



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