

**July 2016**

### **Old vines and their resistance to grapevine trunk diseases**

Image: Rosa Kruger

The objective of this study was to analyse the various fungal communities that colonise functional wood tissues of old vines that did not express symptoms of grapevine trunk diseases (i.e. Esca and Eutypa dieback) in the year of sampling. It was shown that the fungal communities were significantly different depending on the age of the grapevines. Many grapevine trunk diseases fungal pathogens, particularly the causal agents of Esca (42-year-old vines) and Eutypa dieback (58-year-old vines), as well as numerous potentially plant-beneficial mycoparasites (e.g. *Trichoderma* spp.), were isolated from the functional wood tissues of old grapevines. The researchers concluded that the lack of foliar symptoms among older grapevines may reflect an 'equilibrium' among trunk fungal pathogens, mycoparasites and saprobes in the functional wood tissues of trunks. [Read more](#)

### **Grapevine insect pests and their natural enemies in the age of global warming**

Climate change will have significant impacts on grapevine as a host plant for phytophagous insects as well as on trophic interactions in the vineyard. Effects of climate change on grapevine pest insects and their antagonists are already evident, e.g. in changes in phenology or distribution ranges. Future pest control strategies and modelling approaches will require a detailed knowledge of the effects of climate warming on both the grapevine plant, the respective insect species and its natural enemies. In this article researchers review direct and indirect effects of climate change on both the grapevine plant as a host for phytophagous insects, as well as on grape insect pests, their natural enemies and corresponding future grape plant protection strategies. [Read more](#)



### Comparing Kaolin and Pinolene to improve sustainable grapevine production during drought

Viticulture is widely practiced in dry regions, where the grapevine is greatly exposed to water stress. Optimizing plant water use efficiency (WUE) without affecting crop yield, grape and wine quality is crucial to limiting use of water for irrigation and to significantly improving viticulture sustainability. This study examines the use in vineyards of particle film technology (engineered kaolin) and compares it to a film-forming anti-transpirant (pinolene), traditionally used to limit leaf water loss, and to an untreated control. [Read more](#)

### Immobilised native plant cysteine proteases



This research presents a feasibility study of using a continuous packed-bed reactor (PBR), containing immobilised native plant cysteine proteases, as a specific and mild alternative technique relative to the usual bentonite fining for white wine protein stabilisation. The treatment in a PBR containing immobilised bromelain appeared effective in decreasing both wine hazing potential and total protein amount, while it did not significantly affect the phenol compounds, the mineral component nor the sensory quality of wine. The enzymatic treatment in PBR was shown to be a specific and mild technique for use as an alternative to bentonite fining for white wine protein stabilisation. [Read more](#)

### Understanding and managing reduction problems



The formation of reduction off-odours during fermentation is not uncommon and has been clearly described. The reasons for the formation of these compounds during wine ageing however are not clearly known. This article provides a summary of recent research that discovered that H<sub>2</sub>S and methanethiol exists as non-odorous bonded forms in almost all wines. The article also discusses the latest findings on the use of copper to treat reductive odours and the risks associated with it. [Read more](#)



### Upcoming event: 38<sup>th</sup> SASEV Conference

23 – 25 August 2016, Lord Charles Hotel, Somerset West,  
[sasev@sasev.org](mailto:sasev@sasev.org)