THE INFLUENCE OF DIFFERENT FERTILISER APPLICATIONS AND CANOPY MANAGEMENT PRACTICES ON THE POTASSIUM CONTENT AND PH OF JUICE AND WINE OF *VITIS VINIFERA* L. CVS. CABERNET SAUVIGNON AND CABERNET FRANC

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In an attempt to reduce the pH of juice and wine, different fertiliser applications and canopy management practices were evaluated in South Africa in a field trial. Fertiliser treatments entailed no, $CaSO_4$, $Ca(OH)_2$, and $MgSO_4$ fertilisation. Canopy management was as follows: suckering (leaving only two shoots per bearer), tipping, vertical shoot positioning and removal of lateral shoots and yellow leaves in the bunch zone (Canopy 1); suckering (leaving three shoots per bearer), vertical shoot positioning as well as topping (Canopy 2); vertical shoot positioning and topping (Canopy 3). The field trial was conducted in the Paardeberg region on the farms Meerlus and Kersfontein. The vineyard at Meerlus was Cabernet franc/R99 with a high canopy density and a good root distribution, established on a sandy loam soil of granite origin, with a low subsoil pH and a high K content. The vineyard at Kersfontein was Cabernet Sauvignon/101-14 Mgt with a lower canopy density and a less extensive root distribution, also established on a sandy loam soil of granite origin, but with a low top- and subsoil pH and an excessively high K content.

Fertilisation had no significant influence on the K content of juice and wine. Fertilisation with Ca and Mg reduced the pH of juice significantly in the case of Meerlus. In contrast, Mg fertilisation increased the pH of juice significantly at Kersfontein. Lastly, fertilisation had no significant effect on the pH of the wine. Canopy 3 in comparison with Canopy 1 and 2, significantly reduced the K content of the juice at Meerlus. However, in contrast with Canopy 1 and 3, Canopy 2 significantly increased the pH of juice at Meerlus. The K content of the juice at Kersfontein was significantly reduced by Canopy 1, compared to Canopy 2 and 3, with no significant effect on the pH of the juice. Canopy management had no significant effect on wine pH.

It appears to be possible to reduce the pH of juice in the case of Cabernet franc/99R, situated on granite soils, by means of Ca and Mg fertilisation. Because $Ca(OH)_2$ and $MgSO_4$ fertilisation increased the maturity of Cabernet Sauvignon/101-14 Mgt grapes, it was impossible to evaluate the effect of fertilisation on the pH of juice at Kersfontein. The general phenomenon that a high canopy density results in a high pH of juice and wine, was not observed in this field trial. The possible reasons for this were the low canopy density of the control plots (canopy 3), as well as the difference in maturity between canopy management treatments.