



## Increased quality of dry wines with foliar potassium nitrate applications

The effect of potassium nitrate sprays on the wine quality of two grape varieties was studied. Ten year old Carignane (red wine) and Colombard grape (white wine) varieties were sprayed with  $\text{KNO}_3$  at 0%, 1%, 2% and 3% concentrations on June 21 and July 5 in 1996. The experiment was performed in randomized complete block design with 3 replicates in a vineyard in the Izmir area, Turkey. Must and chemical analysis were performed to check the quality of both grape varieties. For complete evaluation of wine quality, density (aerometrically), total soluble solids (TSS), pH, total acidity of must total, bound and free  $\text{SO}_2$ , alcohol content, volatile acidity, total acidity were performed. Organoleptical analyses were conducted according to OIV (Office International du Vin) tests.

The highest value of density was reached in the musts of grapes treated with 2%  $\text{KNO}_3$  ; 1,078 g/cm<sup>3</sup> for Carignane variety and 1,079 g/cm<sup>3</sup> for Colombard variety. The density of the controls was significantly lower (1,071 g/cm<sup>3</sup>). The TSS (Total Soluble Solids) values in the musts of both varieties sprayed with  $\text{KNO}_3$  were significantly higher than controls, excluding the 3%  $\text{KNO}_3$  sprays. The highest value of TSS was reached in the 2%  $\text{KNO}_3$  treatment. For all chemical and organoleptical results, it could be evaluated that up to 2%  $\text{KNO}_3$  application for Colombard and up to 1% for Carignane have positive effects on wine quality.