

Title Assessment of the quality parameters in grapes using VIS/NIR spectroscopy
Author Bart Kemps, Lorenzo Leon, Stanley Best, Josse De Baerdemaeker and Bart De Ketelaere
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Abstract

During the ripening season, measurements were performed on 4 grape varieties (i.e. Cabernet Sauvignon, Merlot, Syrah and Carmenère). Spectral reflection measurements were performed on intact grapes using the Zeiss corona 45 VIS–NIR spectrophotometer. Thereafter, the concentration of extractable anthocyanins at pH equal to 1.0 (pH10) and 3.2 (pH32), the concentration of polyphenols (IPT), the concentration of sugars (OH) and the density were determined from the samples. Partial least squares analysis showed that prediction of PH10 and PH32 was possible for Syrah. For this variety, PH10 and PH32 increased during the season and changes in the spectral properties of the grapes could be linked to these parameters. For all other varieties, the parameters PH10 and PH32 remained fairly constant over time and the results showed that prediction was not possible. The prediction of IPT was not possible for all varieties. The prediction of OH and density was achieved accurately for all varieties. An important region for the prediction of OH and density was detected around 700 nm, corresponding to the red colour. The prediction of sugar is consequently, at least partially, feasible due to the co-occurring colour change from green to blue/red.