Abstract

The goal of this research was to determine if near infrared spectroscopy (NIR) could be integrated into vineyard and winery applications. *Le Vigneron,* a portable NIR spectrometer developed by Rrimrose Corporation USA, was used to collect spectra (in the range from 1100 to 2300nm) from wine grapes and wine products. These spectra were then compared with values determined by standard reference methodologies. Subsequent calibration modeling using partial regression analysis (PLS1) with cross validation produced the following results, using a sampling set of more than 6,000 grape berries for fruit chemistry and fifty wine samples for wine chemistry. For grapes at or near harvest maturity, the follow Standard Errors of Predictions (SEP) were determined: Brix (.91), pH (.75), TA (.76) and anthocyanins (.82). In wines, correlation coefficients were greater then 0.9 for ethanol. These results demonstrate NIR's capabilities as an analytical tool for the grape and wine industry. Further work, using more robust data sets will be necessary, to improve the NIR's commercial applications in the future.