Abstract

Potential of near infrared spectroscopy (NIRS) in the wavelength range of 900–1700 nm for determination of sweetness (total soluble solids, TSS); sourness (acidity) and their ratio for 5 cultivars of apple was studied. Partial least square and multiple linear regression (MLR) employing pre‑processing techniques were carried out. MLR models were found to be the best for prediction after treating the spectral data with multiple scatter correction technique. The multiple correlation coefficients for calibration and validation were found to be 0.887, 0.745 °Brix for TSS, 0.890, 0.752 % for acidity and 0.893, 0.751 for acidity/TSS ratio, respectively. The standard errors of calibration, prediction, biases and differences in them were low, which indicated that NIRS has potential to predict internal quality of apple non‑destructively.

http://www.springerlink.com/content/c4h51h47036l2045/fulltext.pdf