Abstract

A low cost NIR spectrometer has been used to estimate the soluble solids and dry matter content of kiwifruit non-destructively at reasonable high speed. PLS regression in conjunction with wavelength selection provided models with a root mean square error of cross validation of 0.27°Brix for soluble solids and 0.32% for dry matter. These errors are well below previously published results and would allow the grading of kiwifruit by internal quality into a number of classes with distinctly different taste attributes. The time required for data capture has been reduced to 0.75s per fruit by decreasing the noise introduced through the measurement procedure to the equipment. Based on the current performance of the equipment and process it appears feasible to in crease the speed to about 10 fruit per second without detrimental change to signal-to-noise ratio or predictive capability for soluble solids and dry matter, opening the possibility for on-line grading of these properties.