Abstract

The visible and near-infrared spectra of bruised and intact spots on Jonagold apples were acquired from 400 to 1700 nm with spectrophotometers. Multiplicative scatter correction (MSC) and Norris' first derivative were applied to pre-process the spectra. Afterwards, partial least squares (PLS) analysis was performed on the processed spectral data. In terms of the total classification accuracy, the Norris' first derivative processed data performed better than MSC processed data. A total classification accuracy of more than 90% could be achieved. This research shows that visible and near infrared spectroscopy has the potential to be used for detecting bruises on Jonagold apples.