Abstract:

Precise determination of apple fruit maturity development is necessary to meet the optimum harvest date as well as consumer's quality demands. Non-destructive techniques could be very helpful to improve the fruit quality sensing and grading. An important fruit quality aspect is the change of fruit skin colour during fruit maturation. However, most usual colour meters are not able to separate ground and blush colour. Other important quality parameters are the sugar content and the fruit flesh firmness. Spectrophotometry in the visible and near-infrared wavelength range can be advantageously used to monitor colour non-destructively and rapidly as well as internal quality aspects of fruit (Merzlyak et al., 2003)(Park et al., 2002). This spectrophotometer technique has been introduced for fruit quality sorting in packinghouses. This study evaluates the ability of a hand-held portable spectrometer to measure spectral changes in single apple fruit during their disbursement before harvest.