Abstract

Fruit quality can be evaluated in two ways, either, destructively and non-destructively. Whereas near infrared spectrophotometry has overcome many difficulties of associated with destructive methods, the measurement still has problems including high sensitivity to temperature and limited observing spots as well as its higher cost. Capturing fruit images may be another way to estimate fruit quality without damaging the product. After collecting 'Niitaka' pear fruit from different orchards and from different training systems, internal and external quality attributes were measured. Internal attributes included °Brix, flesh firmness, and titratable acidity, and external attributes included weight, length, diameter, and skin color. Skin color was captured and calibrated using the Hunter value (L, a, b), RGB (Red, Green, and Blue), and CMYK (Cyan, Magenta, Yellow, and Black). There was a slight correlation between °Brix degree and titratable acidity but positively correlated with fruit weight and length. With fruit skin color, Hunter 'b' value correlated with °Brix, while R, G, and B values were more highly related with °Brix than the Hunter value. The CMYK method failed to show clear relationship with internal attributes. There was little or no correlation between fruit firmness and any internal or external attributes.