

**Title** Application of portable NIR for measuring soluble solids concentrations in peaches  
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**Citation** ISHS Acta Horticulturae 713: 461-464. 2006.  
**Keywords** near infrared spectroscopy; non-destructive; fruit maturation

#### **Abstract**

A prototype portable near infrared (NIR) spectrometer was evaluated using several varieties of peaches and nectarines, including fruit ranging from immature to tree ripe. The NIR unit was pre-calibrated with different varieties of peaches and nectarines. A series of NIR measurements were made on up to 12 locations on each fruit. Cores of flesh were removed from each of these locations and juice was expressed to enable measurements of soluble solids concentrations (SSC) with a temperature compensated digital refractometer. The NIR and SSC readings were highly correlated. SSC values at different locations within each fruit varied by up to 4%. Based on these data we suggest that a minimum of two NIR readings on opposite sides of the fruit in the equatorial plane are required to give a reliable measure of the average value for each fruit. We found that the NIR unit gave accurate measurements of SSC over four harvests of a yellow flesh peach variety ranging from small immature fruit to large tree ripe fruit.