

**Title** Calibration transfer between NIR diode array and FT-NIR spectrophotometers for measuring the soluble solids contents of apple

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#### **Abstract**

Prediction models of soluble solids contents of fruit obtained with a specific near-infrared spectrophotometer cannot be directly transferred to another spectrophotometer. In this research, a piecewise direct standardization method has been used for this task. As a result, a calibration model for soluble solids contents of apple developed on a Fourier transform based spectrophotometer has been successfully transferred to a diode array (DA) spectrophotometer. The standardization procedure was performed on a data set of 477 Jonagored apples and root mean squared error of prediction of 0.85° Brix was obtained. Additionally, the necessity of calibration transfer procedures between two DA spectrophotometers of the same type and model has also been found.