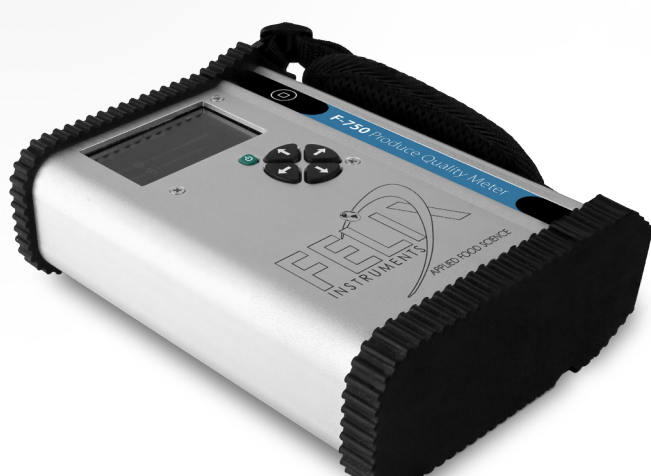




## F-750 Produce Quality Meter Measuring Mandarin Oranges

- ✓ Non-destructive tool for measuring internal qualities of fruits
- ✓ Measures in under 5 seconds
- ✓ Collects data pre- or post-harvest
- ✓ Measures multiple qualities with a single scan

- Total Soluble Solids, or “Brix”
- Dry Matter
- Titratable Acidity
- Internal Color



Total Soluble Solids (TSS), or “Brix,” are positively correlated with consumer preference in citrus fruits. The F-750 was successfully used to measure TSS in mandarin oranges through the following method:

### 1 Collecting the Data

#### Non-destructive Measurement

64 oranges (Mandarin) were scanned using the F-750 to create a training set for a Total Soluble Solids (TSS) model.



#### Destructive Measurement

The same orange regions were destructively measured for TSS using a refractometer.

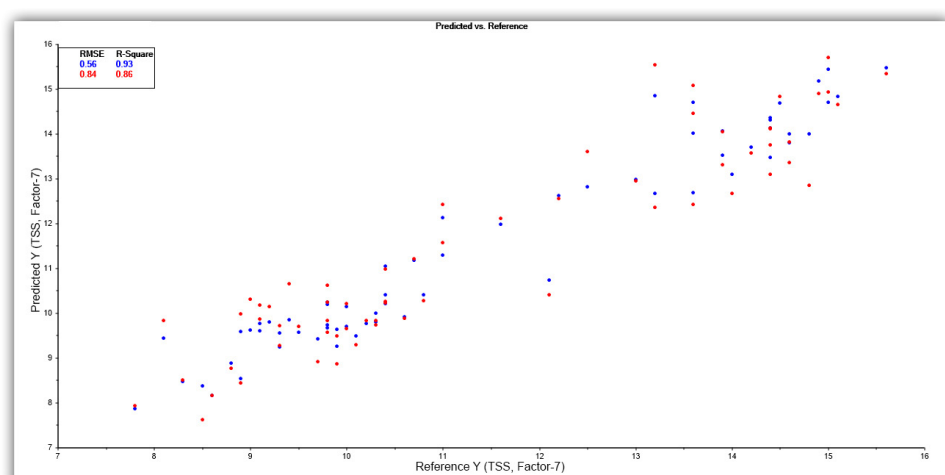
### 2 Building the Model



Training set values collected by the F-750 were matched with destructive reference values using Model Builder Software. Using a spectral range of 702-975 nm, a new orange TSS model was created with an  $R^2$  of 0.93.

### 3 Validating the Model

The newly created orange model had a prediction error of +/- 0.84 °TSS when used to measure samples independent of the original training set fruit.



Authorized Distributor:  
GasDetectorsUSA.com  
Houston, TX USA  
832-615-3588  
sales@GasDetectorsUSA.com