USING A REFRACTOMETER

A Brix refractometer is used to measure the **soluble solids content** of a solution (the juice) in the unit Degrees Brix **(°Bx)**. Sugars are the most abundant soluble solid in fruit and vegetable juices. This measurement is one way that produce growers and processors assess the quality of produce.

When light enters a liquid at an angle, it changes direction; this is called refraction. Light will refract more when traveling through a liquid with dissolved solids, such as sugars. Therefore, the higher the refractive index, the higher the sugar content.

1 degree Brix (°Bx) = 1g of sucrose / 100g of solution

MATERIALS

- Refractometer Instrument
  - Milwaukee MA871 Refractometer
  - Flagfront Brix Meter
- Distilled water
- Transfer pipettes
- Lint-free tissues (Kimwipes)
- Optional: garlic press or cheesecloth

SAMPLE SUGGESTIONS

- Grapes
- Apple juice
- Strawberries
- Blueberries
- Tomatoes
- Citrus
- Soft drinks
- Carrot juice

INSTRUCTIONS

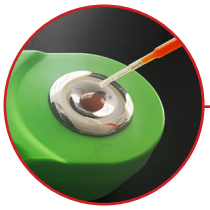
1 CALIBRATION

a. Power on the refractometer. Put 1-2 mL of distilled water in the sample area covering the glass prism.

b. Press ZERO. The screen should show 0.0.

c. Wipe the water off the sample area using a lint-free tissue.

2 SAMPLE TESTING



a. Use a transfer pipette to put 1-2 mL of your liquid sample on the sample area. *If your sample is a solid, like a piece of fruit, extract juice using a garlic press or cheesecloth over the prism to get the juice onto the sample area.*

b. Press READ and record the Brix Value displayed on the screen.

c. Remove the sample. Rinse the sample area with distilled water and wipe clean with a lint-free tissue.

3 Repeat Step 2 for additional samples.