

# BX-1 Refractometer

## BX-1 Refractometer (or Brix Meter)

*Now You Can Identify the Best Produce (Fruits, Veggies, Etc.) to Eat*



In this example, looking through the eyepiece, we see a brix level of 15 (a very good score).

### A Single Invaluable Tool To Evaluate The Best Foods To Eat

The refractometer is an indispensable tool for selecting the best foods to eat (whether they are labeled organic or not). With this simple, robust instrument, all you need is just a couple of drops of juice or sap of a plant (i.e. vegetable, fruit, etc.) to provide valuable data for finding the best foods to consume. It is also an invaluable tool for use in home gardening or farming for plant and crop management.

The refractometer measures brix levels (which are a measure of plant sugars, mineral and vitamin content), protein levels and TDS (Total Dissolved Solids).

The link between high brix levels and inherent pest disease resistance has been conclusively established. Conversely, low brix levels are equated with poorly grown crops, poor mineralization and nutriture.

### Easy To Use

The BX-1 refractometer is exceptionally simple to operate and provides quick, accurate measurements for the brix level of nearly any aqueous solution. Operation consists of placing 1 or 2 drops of fruit or vegetable juice (or sap) on the glass plate, closing the plate cover over the sample, then looking through the focusable, cushioned-rubber eyepiece for the reading.

### Brix Levels

The solids in the liquid bend the light as it passes through the sample that is placed on the viewing plate. The amount of bend or degree of rotation due to the sample relates to the reading on the scale seen through the eyepiece.

Generally, plant juice levels **below 8 are poor; 8 to 12 are good; above 12 is excellent**. High brix levels (above 12) always mean **well-grown plants and ensure improved taste, longer shelf-life and better yields for garden produce**.

Some growers have found, as they continue to improve their soil fertility, that their brix levels for their plants continue to climb higher - indicating better grown produce.

### Accuracy

The BX-1 features the largest, easy-to-read scale available with clear, sharp figures, screen shading, and incredible contrast. These features significantly enhance overall accuracy - even when several different opera-

tors use the instrument. The refractometer features rubber grips on the body, which block the transmission of hand heat to reduce temperature errors.

### Compact And Portable

The small size of the refractometer allows it to be used anywhere - the garden, the store or in your house.

### Durable

The refractometer features rugged construction to provide years of reliable use. The glass plate is mounted in an all-metal housing which allows the sample fluid and plate to reach temperature equilibrium quickly. It also features a non-roll stand to ensure that once the device is placed on a table or bench top, it won't be prone to roll off the surface.

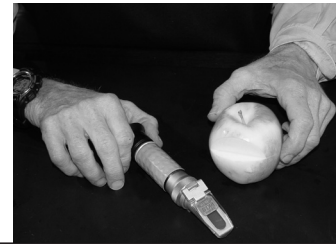
### Tool-Free Calibration

The exclusive "Zero-Ring" eliminates the hassle of using a separate tool for calibration. Simply place a few drops of distilled water on the glass plate, turn the built in "Zero-Ring" until the shadowline is at the correct value of the liquid, and secure the set screw - and that's it!



## Points To Note About the Refractometer:

- Clean the glass surface and plastic cover before and after every use with distilled water.
- Store the unit in its case to prevent dust from entering the focal tube.
- This tool should never be dropped and should always be stored within its shock absorbant case when not in use.
- Calibrate at least monthly to ensure the unit is “zeroed.”
- Ensure the unit is washed with de-ionized water and wiped dry between samples and after use.
- Measuring the brix level of a plant’s sap gives an immediate overview of the general health of a plant or crop at any stage of production.
- Measuring the brix level of a fruit’s or vegetable’s juice can indicate the taste and potential shef-life of the product after harvest (i.e. low brix levels means poor taste and poor shelf life; high brix levels means good taste and longer shelf-life).
- It has been widely assumed that calcium and phosphate are the key elements determining brix levels. However, recent research suggests that potassium can also play an important role.
- If in the garden or field, always measure brix levels at the same time of day, as readings may differ. For example, at midday, plant sap tends to be concentrated (due to evaporation) and brix readings will generally read higher.
- For home gardens/crops, brix readings may fluctuate after applications of fertilizers, chemicals and irrigation.
- Ideally a historical record should be developed over time by each user to help determine possible environmental influences, acceptable brix fluctuations and ideal upper levels in their particular situation. This also applies to those determining whether a fruit or vegetable is tasty.
- Generally, brix readings tend to drop with low atmospheric pressure (eg. the onset of a storm).
- Relying on published brix readings as guidelines can be problematic as it is often not stated whether the readings are derived from the plant sap or fruit juice (fruit juice readings tend to be much higher).
- Brix readings before and after a fertilizer application can help determine the suitability of different inputs, eg. if the brix rises (after one 24-hour application) then it can be considered suitable; if it stays the same or reduces, it would be considered not suitable at that time.



Placing a drop of apple juice on the BX-1.

### Key Features of the BX-1 Refractometer

- ◆ The largest and sharpest scale display available on a handheld refractometer.
- ◆ The daylight plate is exceptionally durable with a double-hinge design allowing even thick samples to be easily measured.
- ◆ A rubber hood house the focusable lens and prevents light from entering through the eyepiece during use.
- ◆ An exclusive “Zero-Ring” for calibration allows quick, accurate, tool-free calibrations. (patent-pending)
- ◆ The rubber grip guards against the user’s hand heat for accurate measurements since refractometers are so greatly influenced by temperature changes.
- ◆ The non-roll stand on the device protects against damage to the instrument when set down between measurements.
- ◆ The rugged, all-metal design allows the sample and glass plate to reach temperature equilibrium quickly for fast measurements.
- ◆ The plate is made of high-quality optical glass material that ensures consistently accurate readings.

### How good is the food you are eating?

*Use a Brix Meter to measure it!*

<u>Brix Units</u>	<u>Value</u>
● 0-4	Poor
● 5-8	Average
● 8-12	Good
● 13+	Great!



Looking through the lens to read the brix level.