



WELCOMES YOU TO SUGARING WITH YOUR NEW REFRACTOMETER

The refractometer you have just received is perfect for measuring the sugar content of either maple sap or maple syrup. Both the *Sap Refractometer* and the *Syrup Refractometer* measure the percent of sugar in a solution in Brix. Sap that measures 2 Brix contains 2% sugar. Syrup that measures 66 Brix contains 66% sugar.

The *Sap Refractometer* will measure from 0-32 Brix. In other words, it will show the density of saps that contain 0-32% sugar. When maple sap comes out of the tree, it may contain up to 3% sugar. After the sap is processed by the *Sugar Cube ZB* or other reverse osmosis system, however, it will contain a higher percentage of sugar. The *Sap Refractometer* has a wide enough range for you to measure the Brix of saps that have been processed several times through reverse osmosis.

The *Syrup Refractometer* will measure from 58-90 Brix. The correct density for maple syrup is between 66 and 68 Brix. Some jurisdictions require a narrower range (Vermont 66.9 – 68.9 Brix). But for us hobby maple syrup makers, it is enough to know that once you reach 66 Brix, properly bottled syrup should not mold, and that syrup with 68 Brix or less should not contain intractable crystalized sugar on the bottom of the jar!

To use your new refractometer, follow the instructions hiding in the lid of its case. According to our discussions with the manufacturer, despite what the instructions say, the refractometers do not typically need to be calibrated before use. If you find that your readings become unreliable over years of use, you may want to calibrate.

For the *Sap Refractometer*, calibrate with distilled water. For the *Syrup Refractometer* you may choose to purchase a special syrup refractometer calibration solution, a factory-made product that is exactly 66 Brix that is widely available online. Or you may use a common shortcut: use a drop of high-quality, extra-virgin olive oil (which measures 71-72 Brix) and calibrate to 71.5 Brix.