



Syrup Hydrometer



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Directions for a Syrup Hydrometer

Before Using the Hydrometer

Thank you for purchasing your state inspected syrup hydrometer. We are sure that you will find this tool essential for making the highest quality maple syrup. Before using the hydrometer mark the lines of the scaled paper within the stem of the hydrometer. To do this simply place the hydrometer in the clear tube that it came in, stand the tube on end and with a permanent marker or pen draw lines on the outside of the tube even with the red lines on the paper. Now with the pen write "top" on the tube above the line. From time to time check your hydrometer against the tube, if the paper doesn't line up, then you need a new hydrometer.

How to Use a Hydrometer

A brief definition of syrup is a density of 32 degrees Baume, at 211 degrees F. Although the temperature at which sap becomes syrup changes depending upon barometric pressure, and elevation from sea level, the density is constant at a given temperature. For example syrup will always be 32 degrees Baume, at 211 degrees F. However, as temperature changes so does the density, for this reason there is a chart included with the proper temperature conversions for the Baume scale.

Different maple producers will use a hydrometer differently; however there are a couple of guidelines which everyone should follow to ensure syrup of high quality.

1. Check the first couple batches of syrup before they are drawn off the evaporator to establish the proper temperature at which to draw syrup. If the temperature is inconsistent continue until it stabilizes.
2. Check every draw-off container of syrup before filtering.
3. Check every barrel before it is sealed (if applicable).

***See the temperature conversion chart for a proper density. ***

When checking syrup as it is drawn off the evaporator use a hydrometer cup. Fill the hydrometer cup until it is $\frac{1}{2}$ to $\frac{3}{4}$ of an inch from the top and set it secure level surface. Do not fill the hydrometer cup with the hydrometer inside. Syrup on the stem of the hydrometer will add weight and increase the margin for error. Slowly lower the hydrometer into the syrup until it reaches the approximate level where it should be. Release the hydrometer and wait for it to stop bobbing. When it has finished bobbing read the hydrometer where it meets the liquid. The lines on a Baume scale are a half a point apart. When checking the density in a draw-off container, be sure that there is enough liquid for the hydrometer to float. Whatever you do, **DO NOT DROP THE HYDROMETER INTO THE SYRUP**. This a sure fire way to crack, shatter or break the hydrometer and if it happens in the draw off container it will ruin the entire batch.

Reading the Hydrometer

It is important to take a temperature reading at the same time as the hydrometer reading because density changes with temperature. Reading the hydrometer is very simple, read the scale where it meets the liquid, if it reads higher than the correct density, the syrup is heavy. If the syrup reads lower than the correct density, the syrup is light.

If your syrup is heavy that you need to add some sap, pure water or sweet from the syrup compartment to dilute the syrup back to the proper density. If your syrup is light, than you need to boil it longer. If your syrup is just slightly light you may be able to draw some heavy syrup into the container and equal it out. However if you are going to be off, be a little bit heavy, it is very easy to dilute by adding sweet or water. However, it may be difficult to pour 10-15 gallons back into the syrup compartment. Once the reading has been completed rinse the hydrometer to clean off any sugar deposits that could potentially affect the next reading. Hot water or sap will do a sufficient job. As second hydrometer cup full of water or sap for the hydrometer to sit in while it is not being used works very well.

If it is used wisely, a hydrometer is a very useful tool and can insure a high quality product. Below is a conversion chart for temperature compensation:

Temp. F.	Degrees Baume	Temp. F.	Degrees Baume	Temp. F.	Degrees Baume
211	32	149	33.75	90	35.25
202+	32.25	140	34	80	35.5
193+	32.5	130	34.25	70	35.75
185	32.75	120	32.5	60	36
176	33	110	34.75	50	36.25
167	33.25	100	35	40	36.5
158	33.5				