

ACHIEVING THE RIGHT SYRUP DENSITY

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Achieving a consistent and acceptable density level for maple syrup continues to be a challenge for many producers.

In Ontario, Regulation 386 establishes the minimum legal density for maple syrup as 66 degrees Brix, anything less than this is illegal and is considered to be low density. There is not a legislated maximum in most jurisdictions, however a density level from 66.5 degrees to 67.5 degrees is considered ideal. Maple producers have also indicated that some of their customers want a higher density product. The Maple Products Regulations under the Canadian Agricultural Products Act specifies the same density standard as Reg 386 on a national basis.

In Vermont and Maine, the minimum legal density is 66.9 degrees Brix and a legal maximum of 68.9 degrees Brix has been established. Other maple producing regions in the United States have a legal minimum of 66 degrees Brix and no established maximum, similar to Canada.

The Ontario Ministry of Agriculture, Food and Rural Affairs' (OMAFRA) collects approximately 450 samples of syrup each year for lab analysis and label review. Results continue to indicate that many producers pack syrup outside the legal and or recommended density levels.

Syrup with a density lower than 66 degrees Brix has legal, quality, economic and potential food safety issues. Low density syrup may ferment or mould and result in unmarketable product, lost customers and recalls.

Syrup with a density above the suggested or legal maximums may have quality issues, including flavour and crystallization resulting in economic loss to the producer.

For example if your syrup is 70 degrees Brix instead of 67.5 degrees Brix and you are selling by the litre, your 1 litre container of heavy syrup is equal to 1.05 litre of syrup at 67.5 degrees Brix. The value of the .05 litres of syrup or extra sugar you are providing is \$0.90 if you are selling for \$18 per litre. Assuming all your syrup is heavy (over recommended or legal density levels depending on jurisdiction) and you have 1000 taps with an average yield of 1 litre per tap, the lost value could be \$900.00. In reality your syrup would not all have high density levels; however significant fluctuations in density could indicate that you need to review measuring methods. Similar values can be determined for other densities using information from the section on Adjusting Syrup Density, pages 168 to 170 in the North American Maple Syrup Producers Manual.

Density problems can be rectified. You begin with an analysis of your current finishing and density measuring method, determine what is not working and look at alternatives. It may mean changing your current finishing and density measuring methods, checking the calibration and accuracy of the equipment you use,

replacing if necessary, and taking a bit more time to double-check the density before packaging the syrup. If you are having problems with density, take some time, get some advice if needed and find a method that works for you.

Many resources are available to assist you with any density issues. See how your neighbour checks theirs, ask your equipment supplier, consult industry people and review available literature.

The following is a list of some of the resources available to help you determine how to achieve the optimum density range for your maple syrup and other maple related interests:

In Ontario: Fact Sheet - Maple Syrup: Measuring Density, Order No. 08-003, Agdex 310/70; (replaces 05-019) can be obtained from your closest OMAFRA Office or may be found on line at: <http://www.omafra.gov.on.ca/english/crops/facts/08-003.htm>

Food Safety Practices for the Production of Maple Syrup Manual may be found online at: http://www.omafra.gov.on.ca/english/food/inspection/maple/maple_prod_food_safety.htm. (Or call 1-866-466-2372 ext. 64395 to order a copy)

The North American Maple Syrup Producers Manual, Second Edition is available through your local maple syrup association or equipment supplier. The Manual can also be ordered from Ohio State University at:

Ohio State University,
Communications and Technology,
Media Distribution,
216 Kottman Hall, 2021 Coffey Rd.,

Columbus, OH 43210-1044
Phone: (614) 292-1607
Fax: (614) 292-1248.
Cost: Softbound \$17.50 and
Hardbound \$25, plus shipping.

Producers can attend one of the very successful maple grading schools offered by IMSI. For information on the grading school times and locations or current industry personnel, contact Dave Chapeskie at the IMSI office at:

International Maple Syrup Institute,
Dave Chapeskie,
Executive Secretary,
5072 Rock St.
RR#4, Spencerville, Ontario
K0E 1X0,
Tel: 613-658-2329
Fax: 613-658-2250
Email: agrofor@ripnet.com
Web: http://www.internationalmaplesyrupinstitute.com/content/en/contact_us.aspx

Contact your local State or Provincial Maple Producers Association or Government Regulatory Office.

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