

# When to Stop: Some Factors Affecting The Economics of Processing Grade Syrup

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Pure maple syrup graded and sold for the retail market must meet minimum standards in four key characteristics; density, clarity, color and flavor. Flavor is the one component that is uniquely maple. The maple production season generally ends when syrup develops off-flavors in late spring. These naturally occurring off-flavors can range from mild to strong. Syrup with detectible off-flavors cannot be sold in a retail container, and commands a lower price on the bulk market. Off-flavored syrup regardless of color falls under the "Processing Grade" in the newly adopted grading standards (see inset) and may not be sold in the retail market. The amount of Processing Grade syrup produced varies widely from year-to-year as well as regionally.

Several prominent industry leaders have suggested that the amount of Processing Grade syrup being produced has increased in recent years. By some estimates 10% to as much as 40% of the crop was off-flavored over the last five years. Is this a necessarily bad thing for the industry? Will low quality syrup undercut sales of Grade A or is there a growing

market for such "ingredient class" maple syrup that demands a pure, sustainably harvested sweetener?

Near the end of each sugaring season, producers must make a decision when to stop making maple syrup. Sometimes the decision is an easy call, such as when the onset of bud break and cessation of sap flow coincide. There are also sugarmakers who stop boiling when they hit a certain (largely self-imposed) color grade they deem unacceptable. Other times the decision

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## Definition of Processing Grade Syrup

Maple syrup for processing (Processing Grade) means any maple syrup that does not meet Grade A requirements, but meets the requirement of Processing Grade for use in the manufacturing of other products. Maple syrup for processing must be packed in containers of 5 gallons or 20 liters or larger. Processing Grade maple syrup cannot be packaged in consumer size containers for retail sales (containers of less than 5 gallons).

- (1) May be any color class and any light transmittance; and not more than 68.9 percent solids content by weight (Brix);
- (2) May contain off flavors; and odors;
- (3) May have a very strong taste.

Substandard is the quality of maple syrup that fails to meet the requirements of Processing Grade maple syrup.

*United States Department of Agriculture  
United States Grades of Maple Syrup  
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to halt production can be the result of fatigue. The decision to stop production can also be the result of careful economic analysis of the cost of production versus value of the product.

The variable costs (fuel, labor, filters, etc.) of any maple operation are a key component to this sort of analysis. The fixed costs (sugarhouse, evaporator or RO for example) remain the same regardless of the amount of syrup produced. The variable costs, on the other hand, increase in proportion to the amount of syrup produced. Part of the decision to end production may lie in how much of a producers income is derived from maple. An operation that contributes a relatively small amount

to the individual's total income may be more inclined to stop earlier than a larger producer who sells most or all of their crop in bulk. Another possibility is that the sap or syrup may be too difficult to process due to high microbial content, making filtering of sap, processing sap through an RO, or filtering of syrup too problematic or costly.

The 2014 Maple Business Benchmark, produced by University of Vermont Extension provides the most recent information related to what it costs to produce a gallon of syrup in Vermont. The study focused on ten operations ranging in size from 2,600-20,000 taps. All used vacuum and RO. Half of the operations used oil to fuel the evaporator and half used wood. The median

variable cost of production was \$13.34 per gallon of syrup. According to Mark Cannella, Farm Business Management Specialist with the University of Vermont Extension and author of the report, that variable cost estimate would likely be considerably lower (perhaps half or less) if another survey focused on the larger, bulk producers who contribute the greatest share of syrup to market. Cost of labor remains the largest single variable that a producer can control. "The value of selling (Processing Grade) syrup for smaller operations will depend (largely) on how the owners value their own time versus cash." Cannella wrote.

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In the early part of this century the price of Processing Grade syrup was very low (Figure 1) at only CAN\$1.00/lb, which was probably lower than the cost of production for many operations. The price more than doubled to CAN\$2.22/lb between 2005 and 2009, likely due to several factors, but primarily due to syrup shortages during this time period. The bulk price for off-flavored syrup remained fairly steady until 2012, but has since receded somewhat, and remained steady at CAN\$1.80/lb for the past three years. The recent high value could explain many producers' motivation to continue production of Processing Grade syrup late into the season.

Wide-spread use of RO may also have contributed to the increase by significantly reducing the fuel costs to run evaporators and, in so doing, one of the largest costs of production. In addition, improved spout and tubing sanitation practices have permitted high sap flows to continue late into the season. Whether the sap produced at this time was off-flavor or not was dependent upon the particular season. Finally, the costs of expansion of production for producers in the U.S. resulted in expenses that needed to be repaid, so syrup production continued as long as was possible in several operations.

Several packers of pure maple syrup

indicated that Processing Grade is being further divided into two classes: The first class being off flavored but otherwise acceptable syrup. The second class, often unfiltered and/or ropy syrup brings the lowest price to the producer due to its limited market. The world's largest seller of bulk maple syrup, Fédération des producteurs acéricoles du Québec (FPAQ) was recently selling Processing Grade syrup at a discount to help spur the development of new markets. Developing new markets for Processing Grade syrup as an ingredient in other foods will be the key to ensuring that overall demand for pure maple syrup increases rather than the same sized pie being cut into smaller pieces. Many consumers are drawn to the pure, wild and simple story of maple syrup. However, significant growth in the ingredient market for Processing Grade syrup would likely only occur when uniform definitions and rules governing the use of the term "maple" are established and enforced.

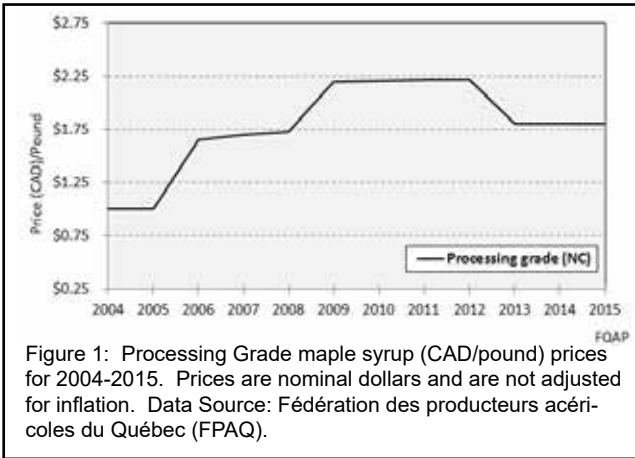


Figure 1: Processing Grade maple syrup (CAD/pound) prices for 2004-2015. Prices are nominal dollars and are not adjusted for inflation. Data Source: Fédération des producteurs acéricoles du Québec (FPAQ).