Recent trends in the maple industry III - changes in sap yield

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This series of articles has described the changes in the U.S. maple industry over the past 15 to 20 years. We have examined trends in syrup production, syrup prices, and the size of the industry, among other factors. The articles have also discussed how these trends are driven by changes in technologies, market conditions, and policy decisions. In this final installment, we will focus on the changes in the industry that have affected syrup production directly, such as improvements in equipment and processes.

The addition of millions of new taps has also driven yields higher. New tubing and previously untapped trees will always outperform older tubing and trees that have been tapped for decades, but many of these new installations have also utilized the newest approaches to sap collection. Many of the newest systems when managed appropriately can yield over 0.5 gal of syrup per tap each year. The 12 year average at the University of Vermont Proctor Maple Research Center is 0.59 gal/tap, with a high of 0.73 gal/tap (2012) and a low of 0.46 gal/tap (2012). The 12 year minimum expectation of 0.50 gal/tap. Anything below that is considered a “poor” season. Of the past 12 seasons, only 2012 with the record high temperatures that occurred in mid-March (normal our peak production time) fell into that category.

The increasing trend towards larger operations is also associated with higher syrup yields. If we discount hobby producers (99 taps and under), there is a very strong positive relationship (r² = 0.81) between the number of taps and syrup yields, with producers over 3,000 taps producing nearly double the amount of syrup per tap than producers under 2,000 taps. This is likely due to the fact that producers with a large number of taps typically will use newer installations and high vacuums to increase sap production. Until recently, the high entry cost of good vacuum was an impediment to high syrup yields from small producers. With the recent introduction of low cost vacuum pumps, and with increasing use of 5/16” tubing on shaped sites producing high vacuum at a low cost, we expect that this gap in yields may become increasingly small over time. Higher syrup prices have also meant that moderate-sized producers were able to buy into at least an entry level of vacuum and still make a profit from their operations.

In summary, production in terms of maple syrup yields has risen greatly over the past one and a half decades. Bartering any significant structural change in the industry, is likely that this trend will continue as producers continue to add taps and install or upgrade to higher levels of technology. What happens after the next few years is difficult to predict, however with the new technological advances being introduced, still in testing, and on the drawing board, it is likely that the trend will continue upward as long as prices remain stable or move higher. On that note, our next installment in this series will examine the changes in syrup prices over the past twenty years, and discuss what factors have been important in the changes we have seen.