

The Forgotten Importance of Block Sugar to the 20th Century Maple Industry

By Matthew M. Thomas

Today's maple industry is primarily focused on producing maple syrup for bottling and consumption in liquid form in consumer-friendly sizes and packages. It is commonly known that before maple syrup became a popular consumable, maple sugar in a cake or granulated form was the primary product of the sugarbush. What is less well understood is that 75 to 100 years ago between one third and one half of all the maple production in North America was reprocessed and sold as block sugar. So, what was block sugar and why was it important?

As the name implies, large rectangular blocks of pure maple sugar were formed by boiling maple syrup to a very thick consistency that could be poured into molds to cool and hardened into hard dry blocks (Figure 1). There was no standard weight or dimension of the blocks, with each manufacturer establishing their own block format, possibly in coordination with the needs of select customers. In general, the blocks weighed around 60 to 70 pounds and were formed in wax paper lined wooden boxes or heavy cardboard containers (Figure 2).

Forming maple syrup into block sugar was a way to transport maple products to consumers that employed maple sugar in making blended syrups and in

flavoring other products, most notably in the tobacco industry. It is not exactly clear who was the first to convert maple sugar and syrup into block sugar but it was George Cary and his Cary Maple Sugar Company in St. Johnsbury, Vermont that made block sugar an industry standard in the first half of the twentieth century.

In making block sugar, syrup was generally reduced to 93% sugar and 7% water, substantially reducing the weight and creating a harder and drier product that could easily be formed into blocks of more convenient sizes and shapes for shipping by rail and truck. Transport in block form also freed up barrels for use in liquid syrup transport and storage.

One article from 1952 described how the Cary Maple Sugar Company made their block sugar, stating that commercial grade syrup was heated to around 250 degrees for a half an hour while being continually stirred. The syrup was then poured into open wood boxes, hardening for a half hour, before taking another 10-12 hours to fully cool (Figure 3). Sherb Doubleday, one time owner of American Maple Products in Newport, Vermont described a similar process, adding that first, barrels of syrup were poured into large ground level tanks where the different syrups were blended, then heated to facilitate clari-

fication with a large filter press.

Using a high-pressure steam boiler, the syrup was further heated in a tank that could hold 2000 lbs. of syrup with constant stirring. Thickened syrup was dispensed into paper lined cardboard boxes to cool and set.

In the late 1880s, Geroge Cary stumbled upon the idea of using maple sugar as a flavoring ingredient in the making of chewing tobacco. The tobacco industry was already using cane sugar, but Cary convinced tobacco makers to try maple sugar instead. The tobacco makers were impressed and in a short time Cary became a maple sugar broker buying millions of pounds of maple sugar and shipping it to tobacco makers. It was said that at its height, the Cary company controlled 90% of the world's maple sugar at the beginning of the twentieth century.

When processing tobacco, maple sugar was used as a flavoring added to create the perfect balance of acidity and sugar. For making chewing tobacco, tobacco leaves were dipped in a sugar-rich solution known as "sugar sauce" then dried to the desired moisture level. Similar processes were used for preparing tobacco for cigarettes which, after blending and cutting, may also be subject to a secondary "casing fluid" where a chemical solution containing sugar was sprayed on the tobacco to create the preferred moisture level and flavor profile. With the invention and growth in popularity in the 19-teens of cigarettes made from blended tobacco, the need for and use of maple sugar a

as a flavoring agent increased exponentially.

Data from 1939 shows that 48 million pounds of sugar were used in the tobacco industry. Of that, 39.7 million was cane and beet sugar, 7.2 million was maple sugar, and less than a million was corn syrup, indicating that, while maple sugar was an important ingredient for tobacco processing, cane and beet sugar were being used in much greater amounts. Of that 7.2 million pounds of maple sugar, 5.9 million went into cigarettes, and 1.3 million into chewing tobacco.

Initially, Cary was shipping sugar in all manner of packaging, from boxes and wood tubs to burlap bags in which it came to him. What Cary liked best was the hard sugar that was being made in the Beauce region in Québec. Cary felt that Vermont sugar was put up too soft and would drain, ferment, sour, and mold due to a high moisture content. Cary told sugarmakers to cook their sugar to 240 degrees to make it dry and hard, which was what he needed to re-pack and transport by rail. Cary also paid a lower amount for sugar packed in reused containers like old butter tubs and cottolene pails. He preferred to buy sugar packed in new clean wooden pails and tubs. Cary learned that buyers would pay 4 to 5 cents a pound more for the drier Beauce-style sugar, so Cary shifted to melting the sugar and cooking it to 258 degrees in steam jacketed kettles and began forming the sugar into large hard blocks of sugar in wooden boxes.

To make the thousands of boxes needed for his block sugar, Cary even set up his own saw mill and box factory adjacent to his St. Johnsbury factory. Cary branded his block sugar "Highland Sugar", named after the name of his Highland Farm and sugarbush located in North Danville, just outside of St. Johnsbury. As late as 1915, the Cary company was buying only sugar and not syrup, but by the later teens, Cary began buying syrup as well as sugar. With this shift to buying syrup, the Cary Company adopted the metal barrel for transport and shipment of maple syrup. Because of Cary's influence and market control, responsibility for the introduction and adoption of metal barrels by the maple industry can safely be attributed to the Cary Company.

The Cary Company was the largest buyer and seller of maple sugar for the first part of the twentieth century, but it was by no means the only packing company dealing in block sugar. This became even more true following the bankruptcy and reorganization of the Cary Company in 1931, which opened the door for a number of new and existing packing businesses in the United States and Canada to grab a greater amount of the block sugar market.

Besides the already mentioned Cary Company, maple packing companies such as United Maple Products (Burlington, Vermont and Granby, Quebec), American Maple Products (Newport, Vermont), Québec Maple Products (Lennoxville, Québec), A.M. Bolduc and Sons (St. Victor-Québec), and the Citadelle Cooperative (Plessisville, -

Québec) were all heavily engaged in the block sugar trade, with block sugar making up a considerable amount of their business.

In 1926, it was estimated that one third of the maple crop went into making syrups and tobacco products, one third was sold directly from producers to consumers, and one third sold to packers for bottling and resale. Reports from the 1930s suggested that as much as 40 percent of the maple production of Canada was sold to US tobacco processors. Frank Rees, manager of United Maple Products in Burlington, estimated in 1947 that his company converted 10 percent of the syrup they purchased into maple candies, 40 percent into bottled table syrups, and the remaining 50 percent into block sugar. Through the 1940s and into the 1950s the tobacco industry's demand for maple sugar was in decline. By 1956 the tobacco market had essentially disappeared.

However, it was not just the tobacco industry that was using block maple sugar. The blended syrup makers were also buying large quantities of maple syrup. One blended syrup executive reported in 1950 that the blended syrup makers were buying about 28 percent of the total maple syrup produced in the United States and Canada combined. Over the years the blended syrup industry also began to reduce the amount of maple it was using, while shifting from buying block sugar to barrel syrup, before phasing it out completely. For example, the formula for Log Cabin Syrup went from 25% pure maple syrup in the first part of the twentieth century to 15% in

the 1930s, 10.5% in the 1960s, 3% in the early 1970s, 2% in 1979 and eventually to zero percent by the 2000s. Today, only one company, Bolduc and Sons out of Quebec, is known to still produce bulk sugar, and that is exclusively made for shipment to See's Candies, a 100-year-old San Francisco-based candy company. During the first half of the twentieth century, a significant portion of the output of sugarbushes was not going into the bottling of pure maple syrup for sale to the consumer but instead was used in the processing of tobacco and the blended table syrup. I

It might be said that the assistance of the blended syrup and tobacco industries were instrumental in the ability of the maple industry to find its footing in transitioning from producing a low valued household commodity of maple sugar of the 19th century to the high valued specialty condiment of maple syrup of today.

Dr. Matthew M. Thomas is a maple industry historian. You can read more maple history articles like this on his website, www.maplesyruphistory.com.



Figure 1: Pouring thickened super-heated maple syrup into block sugar molds at the Cary Maple Sugar Company plant in the 1930s.



Figure 2: Jacketed steam kettles alongside stacks of block sugar at the Citadelle Cooperative plant in Plessisville, Québec.



Figure 3: Hundreds of paper lined wood boxes of block sugar in a cooling room at the Cary Maple Sugar Company plant in St. Johnsbury, Vermont.