Maple Sugaring in the Colonial Times

The full citations for the historical quotations in this presentation are taken from my paper: *Common Questions asked about Maple Sugaring in North America; Answered using Documentation from the Colonial Era*. This paper can be downloaded from my website - [http://colonialbaker.net/maple_sugaring.html](http://colonialbaker.net/maple_sugaring.html)
"I was regaled here with the juice of the maple; this is the season of its flowing. It is extremely delicious, has a most pleasing coolness, and is exceedingly wholesome; the manner of its extracting it is very simple."  Charlevoix, 1721
The Origins of Maple Sugaring

“The Savages have practiced this Art (of maple sugar), longer then any now living among them, can remember.”
(An Account 1685, 988)

“Though this discovery has not been made by the English above twelve or fourteen years; yet it has been known among the Indians, longer then any now living can remember.”
(Beverley 1705, 21)

“The savages from prehistoric times, long before the Europeans discovered America, made maple sugar.”
(Kalm 1751, 153)
“They boil a good deal of sugar in Canada of the juice running out of the incisions in the sugar-maple, the red maple, and the sugar-birch, but that of the first tree is the most commonly made use of.”
(Kalm 1749, 2:411)

“In February and March, there exudes from this tree an abundant flow of a delicious, sweet and clear liquid which is fragrant and wholesome.”
(Bonin 1750’s, 144)
Notice that the majority of sugar maple trees were located in French and Native dominated areas. Most English colonists were living within 100 miles of the Atlantic coast at this time and the upper New England colonies were sparsely populated and so most of the colonial documents concerning maple sugaring come from the French.
Sugaring in Modern Times

Stainless steel evaporator and thermometer used to make syrup.

Wood fired evaporator and stainless steel sap holding tank at the sugar shack at Kensington Metropark, Milford, Michigan.
Plastic tubing inserted into maples to carry sap to a holding bucket rather than using individual spiles and buckets.

Holes are drilled on the sunniest side of the tree for the best sap flow. Drill the tapping hole about 3 feet from the ground and 1 ½ - 2" deep into the trunk, with a slight upward slope so the sap flows out of the hole. Insert a spile and attach a bucket.

With a cold/freezing night and a warm (45 degree) day, sunshine and light wind each bucket will average about 2 gallons of sap.
Naturalist Pehr Kalm wrote advice on sugaring that modern science has proven to still be true.

“The greater the amount of snow during the winter, the more severe the cold, the greater the quality of sap produced by the sugar maple during the following spring.

The first sap which runs from the sugar maple in the spring is sweeter than that which runs later. The more intense the cold, the greater the quantity of sugar in the sap. The warmer the air, the smaller the quantity of sugar in the sap which runs from the tree.

The slower the spring comes and the longer the snow lasts before it melts, the more sap, consequently, the more sugar produced. If the spring comes quickly and the snow melts quickly there is not nearly the quantity of sap as it soon quits running immediately.

If an east wind blows, the trees appear to give very little sap, for the wind is either warm or moist. The heavier the frosts are at night in the spring when the sap is running, the greater is the quantity of sap produced the following day.

During clear weather more sap is produced than during cloudy weather.

The most sap is obtained if there are heavy frosts during the nights and the following days are clear and not too cold. During the night the trees give practically no sap, provided the night is not too mild.

Medium-sized trees give the most and best sap. Those which are very old and large are seldom tapped. Trees which have been tapped for many years give less sap in proportion, but the sap is sweeter.

Trees of the same age do not always give the same quantity of sap or sugar. Often one tree produces the same amount of sap as another, but not necessarily the same quantity of sugar.” (Kalm 1751, 154)
One thing remains consistent about historic or modern maple sugaring....

IT TAKES 40 GALLONS OF SAP TO MAKE 1 GALLON OF SYRUP
Sugar Bush Math
A 10 gallon kettle of sap will yield:

One quart of maple syrup
or......

2 pounds of maple sugar
A standard cord of wood, (4' x 4' x 8') will produce enough heat to boil down 400 gallons of sap to make 10 gallons of maple syrup, or 80 lbs of maple sugar with modern sugaring boilers.

In mid-March of 1763, Alexander Henry, a fur-trader accompanied seven Chippewa men and women and worked a sugar camp in Michigan. By the end of April this crew had producing 1,900 pounds of maple sugar and 36 gallons of maple syrup. It has been estimated that they used 30 cords of wood in this seasonal endeavor.
“In the midst of this, we were joined by several lodges of Indians, most of whom were of the family to which I belonged, and had wintered near us. The lands belonged to this family, and it had therefore the exclusive right to hunt on them. This is according to the custom of the people; for each family has its own lands.”

---

Lafitau's *Moeurs des sauvages amériquains*, 1724
“Arrived here, we turned our attention to sugar-making, the management of which, as I have before related, belongs to the women, the men cutting wood for the fires, and hunting and fishing.” (Henry 1760’s, 141)

‘The women busy themselves in receiving it into vessels of bark, when it trickles from these trees; they boil it, and obtain from it a fairly good sugar.”  (Rasles 1722, 93)
“Indian Sugar Camp”
Captain Seth Eastman, Wisconsin, 1830-40’s

“While the woman collected the sap, boiled it, and completed the sugar, the men were not less busy in cutting wood, making fires, and in hunting and fishing, in part of our supply of food.” Henry, 1760’s
Native Sugar Camp

at Kensington Metropark in Michigan

“While the squaws were employed in making sugar, the boys and men were engaged in hunting and trapping.” (Smith 1750’s, 37)
Canadian Sugar camps
first half of the 19th century

“The common people in the northern most English colonies, as well as the French in Canada, supply themselves with a large quantity of this sugar each year. Farmers often have as much as a quarter of a barrel for a household.”

Kalm, 1751
The French Sugar Shack

at Kensington Metropark in Michigan
The Tools and Process of Native Sugaring that were Taught to the Colonists
“They extract the sap by cutting the tree on one side, in such a form as that the sap will naturally gather into a small channel at the bottom of the hole cut, where they fix into the tree a small chip, six or eight inches long, which carries the sap off from the tree into a vessel set to receive it.”  (Hopkins, 1736, 38)

“The Indians make with their hatchets transverse incisions in the trunks of trees, from which trickles in abundance a water which they receive in large receptacles of bark.”  (Lafitau 1724, 154)
“In the sugar tree they cut a notch, sloping down, and at the end of the notch stuck in a tomahawk; in the place where they stuck the tomahawk they drove a long chip, in order to carry the water out from the tree, and under this they set their vessel to receive it.”

(Smith 1750’s, 36)

“The trees were now cut or tapped, and spouts or ducts introduced into the wound.”

(Henry 1760’s, 70)
Wood, pottery and birch containers to collect sap from a sumac spile.
Native American Spiles

“When you have pierced or tapp’d your tree, or box, you put in a reed, or pipe, or a bit of cedar forced with a channel” Dudley, 1720
Collecting sap using traditional spiles and birch containers

“As soon as the snow begins to melt, a hole is cut or bored into the tree... a small spout is put into the hole, and a pail is put under the spout. The sap then flows into the pail abundantly.” Kalm, 1751
“As some of the elm bark will strip at this season, the squaws, after finding a tree that would do, cut it down, and with a crooked stick, broad and sharp at the end, took the bark off the tree, and of this bark made vessels in a curious manner, that would hold about two gallons each: they made above one hundred of these kind of vessels.” (Smith 1750’s, 36)
“The next day was employed in gathering the bark of white birch-trees, with which to make vessels to catch the wine or sap.” (Henry 1760’s, 70)
“They also made bark vessels for carrying the water (maple sap), that would hold about four gallons each. They had two brass kettles, that held about fifteen gallons each, and other smaller kettles in which they boiled the water. But as they could not at times boil away the water as fast as it was collected, they made vessels of bark, that would hold about one hundred gallons each, for retaining the water; and though the sugar trees did not run every day, they had always a sufficient quantity of water to keep them boiling during the whole sugar season.” (Smith 1750’s, 37)
“it frequently freezes at night in sugar time; and the ice they break and cast out of the vessels. I asked them if they were not throwing away the sugar. They said no; it was water they were casting away; sugar did not freeze, and there was scarcely any in that ice. They said I might try the experiment, and boil some of it, and see what I would get. I never did try it; but I observed that, after several times freezing, the water that remained in the vessel changed its color, and became brown and very sweet.”  (Smith 1750’s, 69)
“Before the arrival of the French in the country of the Canadians and other nomad tribes their entire household material was only of wood, bark or stone...they cooked or rather made tender in the following manner. They heated a quantity of stones and gravel red-hot in a good fire, then they threw them into a kettle filled with water.”
(Sagard 1620’s, 108)

“They used vessels of wood, and they made water boil by throwing in stones made red hot.”  (Charlevoix 1744, 6:47)
Native Pottery Used to Boil Sap

There are no direct quotes from the colonial period referring to the use of pottery used in sugaring but it is very possible and plausible that pottery was utilized as pottery is very common in pre-contact archeological sites and has been shown in modern times to have the ability to withstand the temperatures and time of sugar making.
European colonists and traders brought with them new materials and trade goods that would alter the manner of making maple sugar.

“They found our iron and tin kettles much more convenient, and this is the merchandise which we are sure to find a vent for when we trade with them.”
(Charlevoix 1744, 6:47)
Brass Trade Kettles from the Rock Island site in Wisconsin
“A large iron or copper kettle is filled with sap. It is cooked until it gets so thick that it can no longer be easily stirred with a ladle.” Kalm, 1751

“They had two brass kettles, that held about fifteen gallons each, and other smaller kettles in which they boiled the (sap).” Smith, 1750’s

“From these, we supplied the boilers, of which we had twelve, of from twelve to twenty gallons each, with fires constantly under them, day and night.” Henry, 1760’s
The Primary use of Maple Sap was to Make Maple Sugar

“There being no sugar-canes in that country, those trees supplied that liquor, which being boiled up and evaporated, turned into a kind of sugar somewhat brownish, but very good.” (Joutel 1688, 352)

“When the proper thickness has been reached, the kettle is taken from the fire, set on the coals, and stirred rapidly to prevent the (syrup) from burning, and the sugar from sticking to the kettle. The stirring is continued until the (syrup) gets so thick that it begins to be like flour. The kettle is then put in a cold place. The sugar obtained by this method is like the brown flour-like sugar or muscovado.” (Kalm 1751, 153)
“They afterwards cause this water to boil over the fire, which consumes all the watery matter, and which thickens the rest into the consistency of syrup, or even into cakes of sugar, according to the degree of heat to which they subject it. There is no further mystery to this.” Lafitau 1724

Molded and granulated sugar is made by bringing maple syrup up to 264 degrees F then removing it from the heat and stirring it till it granulates.
Boiled down maple sap past the stage of maple syrup, then granulating into crystallized maple sugar. When the sugar is at the proper temperature this process takes only a few minutes of constant stirring.
“store troughs or large cisterns in the shape of a canoe or larger manger made of white ash, linden, basswood, or white pine.” Rush, 1792
Sugar Paddles

But the Indians prefer making it like Muscovado sugar, this is done simply by stirring it quickly about with a small paddle. (Thompson 1800’s, 275-6)
Sugar paddles used to stir the well boiled sap and granulate it into sugar.

“When the vessels are full they gather the sap and boil it to such a degree of consistence as to make sugar. After it is boiled they take off the first, and stir it till it is cold, which is their way of graining it.” (Hopkins, 1736, 38)
“Maple sugar is made into small cakes like chocolate so that it can more easily be carried on trips. It keeps for a long time if dry, otherwise becomes moldy, spoiling because of dampness.” (Bonin 1750’s, 145)

“If sugar in a special form is desired the thick syrup can be poured into a mold, cup, or vessel, and it is shaped accordingly.” (Kalm 1751, 153)
“Sugar moulds: These should be made of seasonable boards, or of such wood as will not impart a taste to the sugar... Making them of wood, somewhat resembling a mill hopper, about twenty seven inches long, and ten or twelve inches wide, at the top, and tapered to the width of one inch, at the lower end.” (Society of Gentlemen, 1790, 13)
“The Canadians also make a great quantity, which, when the sap is boiled to a proper consistence, they run into moulds where it hardens. But the Indians prefer making it like Muscovado sugar, this is done simply by stirring it quickly about with a small paddle.” (Thompson 1800’s, 275-6)
Please Dad!!!
I want to reenact living off of sugar for a month!!!

“Though, as I have said, we hunted and fished, yet sugar was our principal food, during the whole month of April. I have known Indians to live wholly upon the same, and become fat.” (Henry, 1760’s, 71)

“we eat nothing but our sugar, during the whole period. Each man consumed a pound a day, desired no other food, and was visibly nourished by it.” (Henry, 1760’s, 211)
“The maple is the only sort of raw sugar made use of in the country parts of Canada; it is very generally used also by the inhabitants of the towns, whither it is brought for sale by the country people who attend the markets, just the same as any other kind of country produce. The most common form in which it is seen is in loaves or thick round cakes, precisely as it comes out of the vessel where it is boiled down from the sap. These cakes are of a very dark color in general, and very hard; as they are wanted they are scraped down with a knife, and when thus reduced into powder, the sugar appears of a much lighter cast, and not unlike West Indian muscovado or grained sugar.” (Weld, 1799, 220)
What about maple syrup?

Maple syrup was made and consumed but granulated and cakes of maple sugar were the primary uses of the maple tree sap during the colonial times.

“If syrup is made, the sap is not allowed to cook until it is too thick. The thickness of the syrup depends on the taste of the individual. Whenever sugar is made, some syrup usually remains. The last sap collected is usually quite thin and is used in the making of syrup.” (Kalm 1751, 156)

“there nearly always remains a large quantity of syrup which makes it difficult to carry.” (Kalm 1751, 155)
“When savages cooked gruel or mush for us from corn meal they added large lumps of sugar” (Kalm 1751, 155)

“a sweet liquor, and in it boiled our Indian wheat (corn) which made it delicious, sweet and of a very agreeable relish.” (Joutel 1688, 352)
“About the sides of this pond there grew great abundance of cranberries, which the Indians gathered up on the ice when the pond was frozen over. These berries were about as large as rifle bullets, of a bright red color, an agreeable sour, though rather too sour of themselves, but when mixed with sugar had a very agreeable taste.” (Smith 1750’s, 45)

“At this time homony, plentifully mixed with bear's oil and sugar, or dried venison, bear's oil, and sugar, is what they offer to everyone who comes in any time of the day; and so they go on until their sugar, bear's oil, and venison are all gone, and then they have to eat homony by itself.” (Smith 1750’s, 45)

Wild rice, cranberries and maple sugar

Bear fat, dried venison, homony and maple sugar
“Quitserza, or the nourishing food which is used by the savages and even the French on their long journeys through the wilderness when they cannot carry much food, is made of maize flour, and this sugar prepared and mixed by a special process...... A small sack of this food, which can be carried under a man’s arm, can serve as his food for one or two months.” (Kalm 1751, 156)

“They mix a certain quantity of maple sugar, with an equal amount of Indian corn, dried and powdered, in its milky state. This mixture is packed in little baskets, which are frequently wetted in traveling, without injuring the sugar. A few spoonfuls of it mixed with half a pint of spring water, afford them a pleasant and strengthening meal.” (Rush 1792, 74)
Canadians use of Maple Sugar

“If you visit the French you will see no other sugar used.” (Kalm 1751, 155)

“The common people in the northern most English colonies, as well as the French in Canada, supply themselves with a large quantity of this sugar each year. Farmers often have as much as a quarter of a barrel for a household.” (Kalm 1751, 155)

“Pumpkins are likewise abundant in the farmers garden. They dress them in several ways, but the most common is through the middle, and place the inside of the hearth, towards the fire, till it is quite roasted. The pulp is then cut out of the peel, and eaten; people above the vulgar put sugar to it.” (Kalm 1749, 2:378)

“Maple sugar is said to be better than ordinary sugar for chocolate and just as good as ordinary white sugar for preserving citrons, cranberries, and various other things... In contrast, maple sugar is not as good as ordinary sugar for preserving gooseberries, neither is it as good as white sugar for tea and coffee. However, it is passable in these drinks if milk is added.” (Kalm 1751, 155)
Colonial Sugaring
A joyous family activity