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“HOW SWEET IT IS!”

A HISTORY OF SUGAR and SUGAR REFINING IN THE UNITED STATES

INCLUDING A GLOSSARY OF SWEETENERS

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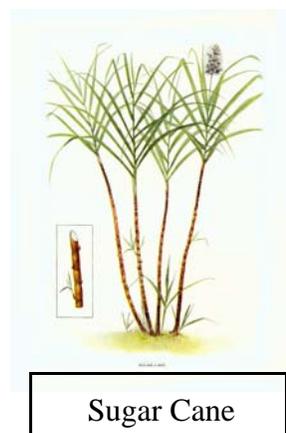
EARLY HISTORY OF SUGAR

Today, almost everyone has a sweet tooth and historically people have craved sweet foods, thus sugar has a long and interesting history. Before sugar made from sugar cane was discovered, the only sweetening product was honey that was produced by bees. To understand about sugar and its impact on America, it is necessary to be familiar with sugar's early history.

The derivation of the word “sugar” is thought to have been from Sanskrit and Sanskrit literature from India, written between 1500 - 500 B. C., provides the first documentation of the cultivation of sugar cane and manufacture of sugar in the Bengal region of India. The Sanskrit name for a crudely made sugar substance was *guda*, meaning “to make into a ball or to conglomerate.” There was little mention made of the manufacturing process of sugar in early India, but 500 B.C., Indian writings referred to sugar cane being used as a vegetable, with the stalks being boiled into a pulpy mass. In an 800 B.C. Chinese writing, it was noted that sugar originally come from India. It was not until 325 B. C. that references to sugar were found with more frequency.

From most indications, the Egyptians were the first to use modern methods to convert cane juice into sugar. Lime (calcium oxide) and albumen (egg white) removed the impurities from the pressed cane juice. The resulting liquid was then boiled, evaporating most of the water, and as the liquid was agitated, crystals of sugar formed. Lastly the residual molasses was washed from the crystals using water. This method was very similar to that used later in Europe.

Sweet cane, i.e., sugar, was mentioned in the Old Testament in both Isaiah 43:24 (circa 800 and 700 B.C.) and Jeremiah 6:20 (circa 600 B.C.). Darius the Great brought sugar to Persia, on his return from expeditions to India around 500 B. C. Nearchus, a soldier of Alexander the Great, in 325 or 327 B. C. [depending on the secondary source], wrote of finding a reed that gave honey without bees, thus indicating that it had a sweet juice or sap. The



Saracens introduced sugar into Egypt, Sicily and Spain. Pliny the Elder wrote of a sweet reed and described sugar as being white, which crackled like salt, was sweet like honey, with the largest pieces being the size of a filbert (hazelnut), and only was used as a medicine. Dioscorides and Galen, Greek physicians, also wrote of a “hard honey called *Saccharum* that was found on canes in India being similar to a grainy-like salt, but having a sweet taste.” Seneca the Younger wrote. “They say that in India honey has been found on the leaves of certain reeds [made] by the juice of the reed itself, which has an unusual richness and sweetness.” Sugar cane was imported into China 100 B. C. but the Chinese were slow to develop the process for manufacturing sugar and it was not until 640 A. D. that the emperor sent people to India to learn the technique. Before the Chinese learned the Indian method of processing sugar, “sugar liquor” or cane juice and cakes or loaves of sugar formed in the shape of men or animals, were known as “stone honey” were imported into China.

It is thought that the Arabs first brought sugar from India into Arabia around 600 A.D. and introduced sugar in the lands of their conquests, including Spain and there was evidence that sugar was refined in Spain in 650 A.D. In 735 A.D., the Venerable Bede left the contents of his spice cabinet, which contained sugar, to the monastery. There are numerous references to sugar and sugar cane in the *Arabian Nights* and in 1073, an Arabian author wrote about the cultivation of sugar cane and the process used to create sugar crystals. Another premise, on the spread of sugar in the western world, was that soldiers returning from the Crusades in 1099 A. D introduced sugar to their homelands.

It is believed that Marco Polo introduced sugar to the Venetians in the twelfth century; he wrote of the abundance of sugar in China and of the described the Egyptian method of sugar refining. The astute Venetians merchants recognized the advantages of this sweet substance, and established European control of the sugar market from the early 1300s to the late 1400s. In the beginning they imported Egyptian sugar, but later they imported the cane and built their own refineries. The Venetians were the first to form sugar loaves or cones and, for more than five hundred years, the process and shape of refined sugar remained almost unchanged. Sugar-candy was also introduced by the Venetians sometime between 1154 and 1189. The first cookbook to include recipes including sugar was published in Venice in 1541. Since sugar was readily available in Italy, those that could afford it consumed it in great quantities. It was used in all foods and the use of sugar decorations was extensive. In some cases, entire table services and the food were made from spun sugar.

In France, as sugar became more available and in 1380, it was recorded that Charles V used a mixture of cinnamon and sugar to spice his foods. It is unclear if France obtained its sugar from Venice or if they imported it directly from the Greek islands. The French word *candi*, may have come from either Candia, Crete, or from the Arabic word, *qandi*, meaning “sugarcane.” Nostradamus, in 1555, wrote the first French book that used sugar in cooking, but at that time the primary use of sugar was medicinal.

The break on the Venetian sugar monopoly began in 1498, when Vasco de Gama introduced Indian sugar to Portugal, and Lisbon then began refining its own sugar. In 1502, the Portuguese planted sugar cane in Madeira and the Canary Islands and from there it traveled to the coast of Africa and in Brazil. Columbus introduced sugar cane to the West Indies in 1493, on his second voyage to the

Americas, and by 1509, sugar was being produced in Haiti and the Dominican Republic.

The English word, “sugar” appeared for the first time in print in the thirteenth century but modern spelling did not appear until later. In England, before 1580, sugar was extremely rare because it had to be imported from Portugal, Venice and Genoa, which made it so expensive that only the wealthy could afford sugar. According to some researchers, sugar was so rare in England that a teaspoon cost the equivalent to five dollars in today’s money. Despite the expense, the royal households had a sweet tooth, and there were records of regular purchases of sugar being made by the household of Henry II, and in 1243 Henry III ordered 300 pounds of sugar. In 1289, the household of Edward I purchased more than 6,258 pounds of sugar and there was a 1319 shipping record listing the sale of 1,000,000 pounds of refined sugar and 10,000 pounds of sugar-candy to English sources. Refined sugar was also mentioned in a provision list during the reign of Henry VII. After coffee and tea were introduced in England, the demand for sugar continued to increase and in 1643 the English began to manufacture sugar in St. Christopher’s and Barbados, and by 1656, sugar cane was planted in Jamaica. After the English started refining its own sugar, the price decreased by Elizabeth I’s reign, and it was sold in penny and two penny packages.

Sugar was not just used to sweeten foods; it was considered a “wonder drug,” and in some towns apothecaries were the only shops that were allowed to sell sugar. Claims were made that sugar cured hemorrhoids, ulcers of the stomach, headaches, and relieved childbirth pain. A writer from the mid-1500s mentioned that sugar could clean the blood, strengthen the body and mind, was good for the eyes and common cold, healed wounds, and when mixed with wine and cinnamon invigorated the elderly, but also warned that it could cause the teeth to decay.

THE SUGAR INDUSTRY AND SLAVERY

There was a direct correlation between sugar and slavery in the New World, but it was not the sole reason for the escalation of slavery. The growing of sugar cane required an abundance of cheap labor, i. e., slaves. The Spanish started by using the native population to produce cane but soon exhausted the available labor pool. They began to import slaves from Africa and by 1512 they were bringing slaves into Hispaniola. The Portuguese started importing slaves into Brazil in 1583 to work on the five sugar plantations, and by 1623, there were 350 sugar plantations in Brazil which required slaves. In two hundred years, millions of slaves had been imported from Africa into the New World just to work on sugar plantations.

This slave economy in the West Indies influenced the economy of the English colonies and later that of the United States. The New England colonies supplied food to the Indies, particularly salted cod, which were used to feed the slaves on the plantations. The ships returning to New England brought sugar and molasses from the Indies. Since it was more profitable to ship the sugar, rather than molasses, to Europe, the cheaper molasses was left in New England for the colonists but the supply of molasses was greater than the consumption. Soon there was a surplus of molasses in New England and the surplus was eliminated by distilling it into rum. Thus, the New England rum industry was born. As New England became a ship building and shipping center, slaves were

purchased in Africa, sold to the plantations in the Indies to work on the sugar plantations. Other colonies began shipping their exports to the West Indies in order to purchase raw sugar for processing.

SUGAR REFINING IN THE UNITED STATES

The United States' involvement in sugar came relatively late in the history of sugar. After 1492, sugar culture migrated from western Europe to the West Indies and later to America. Sugar cane was grown, on a small scale, in the warmer climates of Louisiana, Mississippi, Georgia, and Alabama and in 1758, the first sugar mill was built by the Mississippi River. By 1771, sugar as a crop, was introduced to New Orleans by Jesuit priests, but they met with little success. In 1795, Etienne de Borè developed an improved method of extracting the sugar from the molasses and in 1802 Louisiana produced 2500 tons of sugar. John Randolph, of Louisiana, established one of first successful sugar plantations in 1841. Louisiana became the largest producer of sugar in the United States but there were sugar plantations in Alabama, Florida, Georgia, Mississippi, Missouri, North Carolina, South Carolina, Tennessee, and Texas.

The sugar content of American sugar cane was lower than that of West Indian cane; it was never grown in the quantities that could completely eliminate the need for imported sugar. Refineries found it more profitable to purchase raw sugar and molasses from the Indies and refine the sugar in the States rather than to depend solely on domestic sugar crops. In 1860, the United States imported 694,879,783 pounds of raw sugar and 30,922,633 gallons of molasses (Dept. of Agriculture: 1862, p. 553-553) and the domestic cane production amounted to 230, 982 [1,000] pound barrels of sugar and 14,963,966 gallons of molasses (1860 Census, p. 187). The Civil War almost stopped sugar production and in Louisiana, the production dropped from 110,500 tons of sugar in 1861 to less than 6000 tons in 1864. The American sugar industry never quite recovered after the Civil War, especially after competition from Cuba and Hawaii increased.

Though sugar was not grown in America until the early nineteenth century, raw sugar was imported and refined in factories situated in the northeastern colonies or states. *Rhinelanders* was the first sugar refinery in the English colonies was built in 1689 in New York City. The tax rolls of Boston indicate that Ezechiel Cheever operated a sugar refinery in Charlestown from 1721 to 1766. A 1728 map of New York City showed a sugar house on Wall Street operated by Samuel Bayard. His son published the first known advertisement for a United States sugar refinery in the *New York Gazette* on August 17, 1730 which read, "Public notice is hereby given that Nicholas Bayard of the City of New York has erected a Refining House for Refining all sorts of Sugar and Sugar Candy, and has procured from Europe an experienced Artist in the Mystery. At which Refining House all persons in City and County may be supplied by Wholesale and Re-tail with both double and single Refined Loaf Sugar, as also Powder and Shop-Sugars, and Sugar Candy at Reasonable Rates." (Deerr, p. 461) There were also refineries in New York, Philadelphia, and Baltimore. According to the 1810 United States Census, there were thirty-three refineries in the United States, and by 1860, there was a total of thirty-nine sugar refineries; eighteen of which were in New York and only two were located in southern states. The highest number was recorded in 1875, with forty-two refineries but

by 1880, the number had dwindled to thirty-seven.

One of the oldest refineries was established in 1805 by two brothers, William and Frederick Havemeyer who had just emigrated from England to the United States. They opened a sugar refinery on Manhattan Island, New York. In 1887 Henry Havermeier, of Havemeyer and Elder, Inc., consolidated a number of refineries in the United States into the Sugar Refining Company. Under the Anti-Trust Act, the United States Supreme Court declared it a monopoly and dissolved the trust; the refineries reorganized in 1891 as the American Sugar Refineries Company. This new company produced almost all of the sugar manufactured in the United States and eventually became part of Tate and Lyle North American Sugars Inc, which owns the Domino® Sugar brand.

REFINED SUGAR CONSUMPTION IN THE UNITED STATES

Year	Amount per capita	Source
1790	8 pounds	Woloson, p. 6
1822	9.5 pounds	Ballinger, p. 7
1840	16 pounds	Dept. of Agriculture, 1862, p. 553
1859	30 pounds	<i>Fon du Lac Weekly Commonwealth</i>
1862	39 pounds	Dept. of Agriculture, 1862, p. 553
1879	42 pounds	<i>The Manufacturer and Builder</i> , p. 123
1900	80 pounds	Woloson, p. 6
1970	102 pounds [*122 pounds which includes all caloric sweeteners]	Sugar Association statistics
1999	69 pounds [*158 pounds which includes all caloric sweeteners]	Sugar Association statistics

Author's note: The above statistics are for refined sugar, both cane and beet (when applicable), rather than for economic consumption (total amount of sugar produced divided by population).

* This amount reflects the total consumption of caloric sweeteners, including honey; molasses; maple sugar; and corn and other non-cane sweeteners, excluding refined beet sugar.

SUGAR SHORTAGES DURING THE CIVIL WAR

The Civil War caused many shortages for both the North and the South. Most of us are familiar with shortages in the South, but few think of the northern shortages. The blockaded southern ports and the inability to import or export goods, caused shortages. Some were artificially created when

speculators purchased a majority of a particular item and others were due to the blockaded ports. In the North shortages were created by the ships being used for war purposes and not the importing of foreign goods and railroads being used for military purposes. In the case of sugar, the raw sugar was not exported from the South.

Before the war, sugar sold for about the same price in both the North and South. Brown sugar cost about nine cents per pound and white sugar sold for an average price of nineteen cents per pound. Molasses sold for about seventy-five cents per gallon. Molasses was cheaper in the North before the war at about thirty-three cents per gallon. As the war progressed, prices rose; more so in the South than in the North. Soon after the start of the war sugar began disappearing from store shelves and by 1863, the price of a gallon of molasses rose to over \$500 and coarse brown sugar cost over \$100 per pound. Judith McGuire, of Richmond, wrote that “white sugar was not thought of by persons of moderate means.” In the North the price escalation was not as great, but was felt just the same. In Maine, by 1865, the price of both brown sugar and molasses had doubled. White sugar also disappeared from the tables of most people. Sorghum appeared in both regions to make up for the loss of sugar and molasses. Before the war, it was grown both in the North and the South, but during the war its cultivation increased in the Northwest. Maple sugar and beet sugar was also used to some extent, but did not completely compensate for the loss of refined sugar.

THE SUGAR REFINING PROCESS

Despite the long history of sugar and the refining process has remained largely unchanged from the fourteenth century through the mid-nineteenth century. Evidence of sugar refining exists from the fourth century but the Venetians were probably the most well known European refiners. The process had been a closely guarded secret and was not revealed until 1764, when de Monceau described the process in *L' Art de Raffiner le Sucre*. The methods used in the United States up until the mid-nineteenth century were very similar to those used by the Venetians since the thirteenth century.

There were many steps between the cane fields and the barrel of sugar or blue wrapped loaves on store shelves. The initial refining was done near the cane fields because freshly pressed cane juice fermented in less than twenty-four hours. Cane juice was pressed from the stalks by running them through a series of fluted wood or cast iron rollers; the juice was then cooked in large flat-bottomed copper pans, called clarifiers. The acidity of the cane juice was reduced by adding quicklime [calcium oxide] and as the impurities rose to the surface they were removed by skimming the surface of the liquid. The cleared liquid was siphoned into copper evaporating pans, where additional lime-water was added to further reduce the acidity. As the liquid boiled the scum was removed a second time. The remaining liquid, called *treche*, was boiled again in smaller copper pans until it was reduced sufficiently to support the granulation of sugar. The thickened liquid was placed in cooling pans and was stirred with wooden paddles, and as it cooled, the sugar crystalized into small, irregular crystals or grains which were suspended in the molasses. This sugar/molasses mixture was taken to the curing-house, where it was placed in hogsheads with small holes in the bottom; the holes were plugged with filters made of plantain stalks. The molasses slowly drained through the

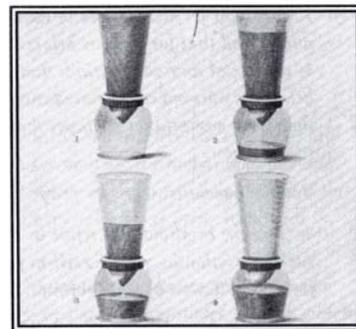
spongy stalks, leaving the sugar crystals in the bottom of the hogshead. After about three weeks, the sugar that remained in the barrels, was packed into large hogsheads or tierces, each weighing between twelve hundred and two thousand pounds which were shipped from the sugar-houses to the refineries or stores where it was refined further or sold in stores as Muscovado or raw sugar. The molasses that remained could be processed into inferior sugars, rum or sold as sugar-house molasses.



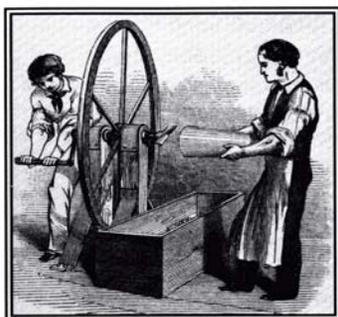
A vacuum pan.



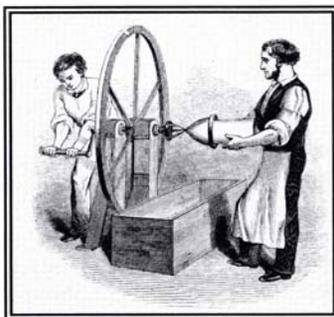
Filling the moulds.



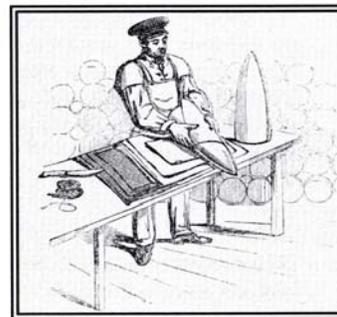
The drainage of the molasses from the sugar by "claying" or "liquoring."



Removing the coarse sugar by "brushing-off" the cone.



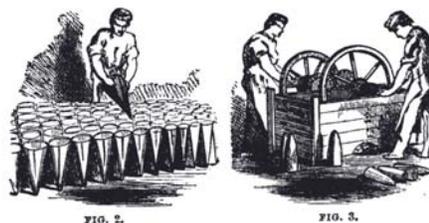
Removing any last elements of molasses from the cone by "turning-off."



Wrapping the cones with an inside layer of white paper, then an outside layer of blue paper, prior to shipment.

Once the dark Muscovado sugar reached the refinery, it was clarified into a lighter colored sugar. The clarification process entailed the addition of lime-water and bullock's blood, egg white or granulated bone-black (charcoal obtained from burning animal bones) and to the sugar crystals and the mixture was allowed to sit overnight in order to dissolve the sugar crystals. The liquid was then heated to boiling, which caused the protein in the egg white or blood to coagulate and float to the

top, and the encapsulated impurities in the sugar were removed by a skimmer. The skimmed liquid was simmered for a time and the heat gradually increased until a sufficient amount of water had evaporated, thus producing a syrup. The syrup was transferred to coolers, where it was agitated with wooden oars until it granulated.



After granulation, the sugar was packed in cone-shaped earthenware, painted sheet iron, or copper-lined wooden molds, all of which had a small hole in the tip. The remaining syrup drained through the holes and the sugar was whiter than before, but was not snow white. The loaves were allowed to drain for about twelve hours, after which they were further cleaned. The drained syrup was further processed to extract lower qualities of sugar, until nothing remained except dark, bitter treacle or black-strap molasses.

There were two methods used to further refine the sugar within the molds. One technique, called claying, produced Lisbon or clayed sugar, which was manufactured in the French, Spanish and Portuguese colonies. After the initial process was completed, the loaves were covered with a layer of wet pipe-clay on top of the sugar. Water was slowly poured over the clay and as it drained through the clay and sugar, the water removed the molasses that clung to the sugar crystals. This step was continued until the desired whiteness of the sugar was reached. By the mid-nineteenth century, the claying process was considered obsolete, having been replaced by the French method.

The second process, called the “French method,” defecation or “liquoring,” was similar to claying but a wooden mold lined with copper was used. The sugar was not covered with a layer of clay but instead it was cleaned by pouring the sugar liquor or *green syrup* over the sugar instead of water. The liquor, a saturated sugar solution, did not dissolve the sugar, but only carried away the dark, molasses-like residue. This was continued until the desired level of whiteness was achieved.

Washing the sugar carried away most of the molasses and impurities but some still remained in the loaf. The sugar was not completely white; it was whitest at the base and gradually darkened as the impurities settled at the tip. Occasionally a loaf would not be thoroughly cleaned and the middle of the loaf would be very dark which was called “black sugar.”

No matter which of the above processes were used, the loaves were then similarly treated after the sugar was cleaned. After an initial drying period, the sugar loaves were removed from the molds and set on their bases further drying. After the remaining moisture diffused equally throughout the loaves, they were dried in stove rooms, at a temperature of 130 to 140 degrees, for a period of two or three days. [Makers of sugar loaves were called “sugar bakers,” most likely taken from this process of heating.] After the loaves were completely dried, the darkest sugar, at the tip of the loaves, which contained the larger portion of impurities, was sanded off. The loaves now had rounded tops instead of a sharp tip.

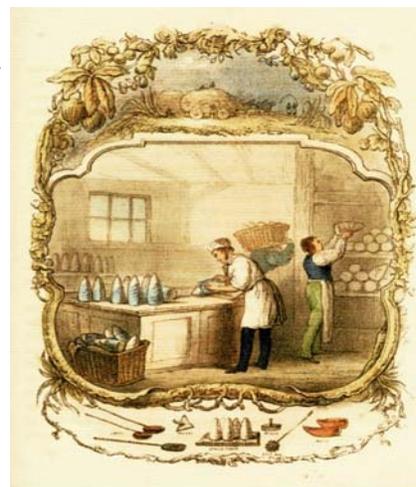
The familiar loaf shape was said to have originated in Persia in 600 AD. (Deerr, p. 450)

Sugar molds were made in a wide variety of sizes which produced different weights of loaves. They ranged in height from eleven to twenty-two inches, having diameters between five and ten inches and weighed between five and fifty pounds. (Deerr, p. 465) The loaf molds used by Redpath Company of Montreal, Canada were four feet high with a diameter of sixteen inches at the base but there was no weight for the final loaf given (*Montreal Witness*, 1855). The larger loaves were sold to confectioneries and retailers and the smaller, more manageable sizes, were purchased for family use. The largest retail loaves weighed between eleven and thirteen pounds and the loaves seen in museums are about ten inches high, with a diameter of four and one half inches at the base with a weight between four and five pounds. Madeira sugar, considered the finest of the loaf sugars, came in smaller loaves of three to four pounds each. There are no specific dates for the changes in shape of the loaves but in a comparison of woodcuts from the sixteenth to nineteenth centuries show a bullet-shaped loaf. The shape became more streamlined with a smaller base and straighter sides in mid-century.



Loaf Mould.

Once the loaves were thoroughly dry and sanded, they were first wrapped in white paper and then wrapped in blue paper prior to shipping (Feltoe, p. 46, 47). According to a 1764 document, blue paper was used to give the illusion that the tan sugar was whiter (Deerr, p. 466). Blue paper had been made in England since 1665 when Charles Hildyard was granted the first patent in England for making, “blew [sic] paper used by sugar bakers and others.” (Balfour-Paul, p.56). Indigo, logwood, woad, smalt [finely ground cobalt blue glass], or Prussian blue were all used to dye the paper blue (Krill, p. 215). A frugal housewife could recycle the paper by using it as a dye: Lydia Maria Child wrote, “The purple paper, which comes on loaf sugar, boiled in cider, or vinegar, with a small bit of alum, makes a fine purple slate color.” [This may be an indication that the paper she described was dyed with logwood since logwood blue often faded to a purple color and logwood was also used for a purple dye.] Some of the most expensive loaves were wrapped in violet colored paper were called, King’s Sugar (Deerr, p. 466).



Since refined sugar was more expensive than brown, it was a candidate for adulteration. It was considerably easier to add adulterants to crushed or pulverized sugar to make them appear whiter. Plaster of Paris or gypsum were both used to adulterate the sugar sold in barrels or sugar confections. Inferior loaf sugar could also be made to look whiter by adding a small amount of bluing powder (ultramarine), which could be detected by making a concentrated solution of sugar and allow it to stand several days and if it was adulterated, the bluing particles would sink to the bottom. It was said that a pure sugar loaf would ring like a crystal glass.

INNOVATIONS IN THE REFINING PROCESS

By the nineteenth century, few changes had been made in the refining process since the Venetians began processing sugar in the fourteenth century. Innovations were introduced in the early 1800's, but as with any new technology, changes were slow to become universally adopted. In 1812, Mr. Howard of Richmond, Demerara, British Guiana [Guyana] developed a new process in which crystallized sugar at a lower temperature which shortened the refining time. Vacuum pans were used to evaporate the liquid which increased the yield of refined sugar. The sugar syrup was clarified as before but instead of open kettles, which relied upon high heat for evaporation and concentration of the sugar, vacuum pans were heated by steam heat to a temperature of less than 155°. After granulation occurred, the sugar was placed in curing boxes which had bottoms of metallic gauze. The air was withdrawn from the boxes which created a vacuum. The molasses was forced from the crystals, leaving large pale, tan crystals. The sugar was placed in conical molds, formed into loaves and was then cleaned by either claying or liquoring. This sugar was called vacuum, coffee, yellow, or *Demerara* sugar. (Ure, 769 - 772) The process was not adopted in the United States until 1855.

The Boston Sugar Refinery introduced granulated sugar in 1853. The process differed somewhat from other methods; moist refined sugar was placed in a steam table fifteen to twenty feet long and three to five feet wide. The sugar was worked with wooden rakes, moving it up and down the length of the table, until it was thoroughly dried. The crystals were then separated, using sieves of varying meshes, which separated the sugar into fine, standard, and coarse grades. The different sizes were then packed in barrels for shipping and resale. According to *One Hundred Years of American Commerce*, a granulating machine for drying damp white sugar was introduced in 1848 and by 1873, the granulation process was modernized by the use of centrifugal machines. In 1883, the *Grocer's Hand-Book* indicated that granulated sugar was popular in the United States, but was packed into barrels. Sugar was not sold in individual containers until the late 1890s.

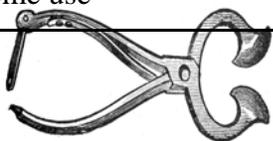
The centrifugal machine was another innovation in sugar refining. It was first patented in England by Mr. C. W. Finzel in 1849 and was not generally used in the United States until after 1860. The sugar was processed in very large vacuum pans for the initial evaporation which concentrated the sugar liquor until minute crystals appeared and additional liquor was added. The process continued without allowing large crystals to form, thus creating a mother-liquor (a saturated sugar solution). Half the mother-liquor was retained for sugar crystallization and the remaining half was used to wash the sugar. The centrifugal machine was then used to separate the crystals from the molasses, and as the molasses drained away, the crystals were washed with sugar-liquor until they were white. After drying, the grains were separated by using various sized screens and the sugar packed in barrels for shipping. The drainage from each stage of the centrifugal process was further crystallized and used for varying qualities of sugar (Ure, ppg. 773 - 776). Centrifugal sugar was still packed into loaf molds or barrels until the advent of prepacked sugar in bags or boxes in 1898 and 1900, respectively. Modern sugar refiners use variations of the centrifugal method with the addition

of modern technology and machinery.

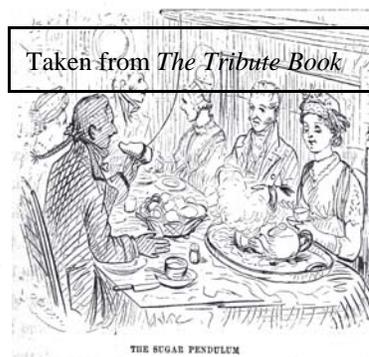
PURCHASING AND USING THE SUGAR

Sugar loaves are extremely hard and difficult to break. If a customer was purchasing only portion of a loaf from a store the storekeeper would have large device, called a sugar nipper, with which he could break off or “nip” the amount of sugar the customer desired. If the purchase was sugar from the barrel, a sugar auger or “sugar devil” was used to drill into the barrel and break apart the hardened sugar. After the sugar was taken home, it still needed to be processed for further use. Hammers worked well but were not as precise. As shown in a cartoon from *The Tribute Book*, drawn from a description from by Washington Irving, some families, just used the large chunks and made do.

Sugar nippers, large or small which could be used for commercial or home use



Using sugar in baking and cooking was not just a matter of taking it out of the container, measuring it, and using it in a recipe. Sugar needed to be ground or powdered if used in cakes and frosting and the method that was used employed a mortar and pestle. Sugar is hard and, and speaking from experience, it takes a very long time to powder sugar fine enough to use in an icing or frosting. After powdering sugar by hand, one appreciates a fluffy frosting or meringue.



In confectionery or preserving, sugar had to be clarified, even if it was white sugar loaves. The only sugar that did not have to be clarified was sugar candy or what we would call rock candy. The directions for clarifying sugar appeared in many publications and an example of the common directions are as follows. “To CLARIFY SUGAR FOR PRESERVING. Put into a preserving-pan as many pounds of sugar as you wish; to each pound of sugar put half a pint of water, and the white of an egg to every four pounds; stir it together until the sugar is dissolved; then set it over a gentle fire; stir it occasionally, and take off the scum as it rises. After a few boilings-up, the sugar will rise so high as to run over the side of the pan; to prevent which, take it from the fire for a few minutes, when it will subside, and leave time for skimming. Repeat the skimming until a slight scum or foam only will rise; then take off the pan, lay a slightly wetted napkin over the basin, and then strain the sugar through it. Put the skimmings into a basin; when the sugar is clarified, rinse the skimmer and basin with a glass of cold water, and put it to the scum, and set it by for common purposes.” (Godey’s May 1855)

Maybe next time we spoon some white sugar in a cup of coffee or tea or use powdered sugar for cake icing, we will be able to better appreciate the effort that ancestors made for the same experience for sweetness in foods and beverages.

GLOSSARY OF SUGAR, SYRUPS AND OTHER SWEETENERS

Sugar is not a simple product nor is it simply sugar. The “sweet stuff” takes many forms and sometimes the various names for sugar can be confusing. Below are definitions and descriptions of many of those forms as well as modern substitutes that may be used in a living history situation. A number of kinds of sugar were mentioned in period store ledgers, newspaper advertisements, and diary entries. Some of those variations seen were barley, brown, clarified, coffee, crushed, granulated, Havana, loaf sugar, Muscovado, New Orleans, powdered, double and triple refined sugar, and sugar-candy, as well as different types of molasses and syrups. All these forms of sugar and syrups are sweet, but refer to the amount of refining or processing needed to produce a specific type of sugar or syrup.

In the nineteenth century there are many names given to different forms and types of sugar but some terms are unfamiliar or a particular type of sugar no longer exists. It is sometimes difficult to understand the differences between the different sugars or syrups and may create some confusion in research. [Note: The prices quoted were taken from miscellaneous primary sources dating between 1852 through 1861.]

BARLEY SUGAR — This was a type of sugar candy where sugar was dissolved in barley water (water in which barley had been soaked), slightly flavored with lemon, and boiled until the syrup reached the hard crack stage (295° - 310°). After reaching the correct temperature, the syrup was poured on a stone slab, cooled, rolled into cylinders and twisted into sticks that were hard, clear, and tan-colored. These were sold as stick candy or “penny candy” or made into candy toys. As early as 1638, it was made into clear candy toys which were in forms of fruits, animals, dolls, toys, and sewing tools. Some were left a natural pale tan and others were colored green or red, but the flavor was the same as the natural colored candy.

BROWN SUGAR — The term brown sugar could refer to Muscovado sugar, unwashed Demerara or centrifugal sugar. Brown sugar sold about thirteen cents per pound.

CASTER or CASTOR SUGAR — Another name for superfine sugar. The term was derived from the fineness of the grains in order to pass through the holes of a sugar caster.

CLARIFIED SUGAR — This term referred to the cleaning of sugar, whether it was performed in the refinery or at home. It was part of the process of refining sugar but homemakers frequently needed to clarify sugar at home to remove the impurities and adulterants from both brown sugar and refined sugar. Instructions for the process were often included in cookbooks or magazines such as *Godey's*. The June 1862 issue contained such directions. “To Clarify Sugar — Take the quantity of fine white loaf-sugar you intend to clarify, add to it of very clean warm water half a pint for every pound; when dissolved, add to it the white of one or two eggs — as the quantity may require — well whipped, put it on the fire, and when it comes to a boil, pour into it an ordinary teacupful of cold water; on its rising again to a boil, remove it, and let it settle for twenty minutes; skim the scum from the top, pour off the syrup into a clean vessel with sufficient quickness to leave all the sediment at the bottom, and such steadiness as to prevent any of the latter rising and mixing with it.” If dry

sugar was required, the syrup must be agitated in order for the sugar to recrystallize which then must be dried. Instructions for clarifying sugar appeared in cookbooks as late as 1908.

CLAYED SUGAR — The second refining step in production of a sugar loaf which entailed placing a layer of pipe-clay over sugar in the mold and slowly pouring water through the clay. As the water drained through the sugar the molasses and impurities were removed.

COFFEE SUGAR — The term referred to a yellow sugar processed by either the vacuum or centrifugal method if it was not further cleaned. The crystals were usually larger than those of loaf sugar. Coffee sugar sold for thirteen cents per pound.

CRUSHED SUGAR — Crushed sugar was refined from an inferior grade of raw sugar. It was cleaned through an animal charcoal filtration system and was the product of the first crystallization process after raw sugar was produced. By 1872, a centrifuge was used and the sugar was not liquored, as was loaf sugar. The result was pale tan in color and was packed in barrels for retail sale. The sugar hardened in the barrel and was sold in lump form from the barrel or as coarse grindings from the store-keeper's sugar mill. If a finer grained sugar was desired, furthering crushing was done at home with a roller or mortar and pestle. As late as 1887, cookbooks were instructing the housewife to make sure that sugar used for cakes should be rolled and sifted. The cost of crushed sugar was about seventeen cents per pound.

CUT SUGAR — The term given to slices from large sugar loaves. Introduced around 1840, these slices or tablets were priced by the pound and sold as individual slices.

DEMERARA SUGAR — This type of sugar was made by the vacuum process which was developed in 1812. It was light tan in color and could be either molded in loaves for a whiter sugar, or packed in barrels as darker sugar. Also called brown sugar, coffee sugar, second, or yellow sugar. Demerara sugar is still available in some speciality stores.

FOOTS — This was the term for the sticky and dirty residual sugar at the bottom of a barrel of Muscovado sugar; it also contained contaminants such as insects. This was the lowest grade of sugar and therefore was cheaper than Muscovado.

GRANULATED WHITE SUGAR — It is difficult to establish a specific date for the introduction of granulated sugar in the United States, but there is evidence that it was sold in stores as early as the 1850's. *The Grocer's Hand-Book*, written in 1883 described the process for granulating sugar, stating that was strictly an American style of sugar and was first made by the Boston Sugar Refinery in 1853. The sale of prepackaged sugar was not common until 1898 when Arbuckle Brothers Coffee Company packaged granulated sugar into family-sized bags. In 1900, granulated sugar was first packed in boxes by the American Sugar Refining Company, under the name of Domino.®

There was a push in the late nineteenth century to persuade the American public to accept white sugar as the best and stop using the cheaper brown sugar. To increase the sales of white sugar, a 1898 advertisement warned the public of infestations of an insect that lived only in raw sugar.

With this advertising ploy and the lowering of the price of white sugar, its sales soared and remains the most popular today.

GROUND SUGAR — This item was loaf sugar that had been ground into a coarse powder at the refiners. Even though it was sold in stores, some cookbooks warned consumers that it was often adulterated. *New Receipts for Cooking* stated, “If you use such white sugar as is bought already powdered, you must have half a pound as that sugar has very little strength, being now adulterated with ground starch.” This sugar cost about sixteen cents per pound.

HAVANA OR CUBA SUGAR — In loaf form, this light tan sugar was refined using the claying process and was produced in Havana, Cuba. Some primary sources indicate that Havana sugar was of a higher quality than New Orleans sugar, but others state that it was of low quality and only one step above Muscovado sugar. A fairly good substitute for Havana sugar is milled natural cane sugar, which has a small crystalline structure and a slight molasses flavor. For the nineteenth century demonstrations, it should be dampened and formed into a loaf shape. [See sugar loaf instructions.]

LISBON SUGAR — Lisbon sugar was another name for clayed sugar.

LOAF SUGAR — One of the most highly refined sugars it was formed into loaves or cones. It was referred to as white sugar, but was actually a very pale tan color. The family size loaf weighed between eleven and thirteen pounds. For convenience, the loaves were broken into smaller pieces using sugar nippers, which ranged in size from the smaller hand ones to the counter models used by storekeepers. One quart of broken up loaf sugar weighed one pound to one pound one ounce. The price of the loaf sugar ranged between thirteen and seventeen cents per pound, depending on whether or not the entire loaf or portion of a loaf was purchased.

It is difficult to pinpoint a specific date when loaf sugar was phased out. Although other forms of sugar had been produced for a number of years, cookbooks as late as 1887, still recommended using loaf sugar and gave directions for pounding loaf sugar. Cut loaf sugar was still being sold in the 1897 Sears, Roebuck, and Company catalogue, along with cube; 4X powdered; fine and standard granulated; yellow and brown; and confectionary sugars.

Only refined sugar was molded in cones, with one exception. Large loaves of brown sugar, called *Bastards*, weighed fifty-six pounds. The sugar in these loaves was made by the concentration of inferior syrups, thus producing a much lower quality of sugar. Even though small cones of brown sugar may be found in ethnic grocery stores, there is NO evidence that they were common in the United States in the nineteenth century. Today, these small loaves are made by packing the damp brown sugar in wooden molds and after the loaves are set and semi-dried, they were removed from the molds and allowed to completely dry; this method is totally unlike any nineteenth sugar refining process.

MUSCOVADO OR MOLASSES SUGAR — The word *Muscovado* was derived from either the Spanish *masacabado* or the Portugese *mascavado*, both meaning “unrefined.” The terms brown

sugar, molasses sugar and raw sugar all refer to the dark-brown sugar that remained after the first processing of sugar cane. It had a high molasses content, was moist with a strong molasses taste. This sugar could be further refined on the plantations or shipped to refineries for additional processing. It was shipped to stores in barrels and sold as one of the lower or cheaper grades of sugar. Since it tended to harden in the barrel, it needed to be broken up with a sugar auger or “sugar devil” (resembled a large hand drill) and was sold by the pound. If the barrel was exposed to summer heat or high humidity, the sugar and molasses began to separate and the molasses would leak from the barrel. The weight of Muscovado sugar differed in weight from the more refined loaf sugar because of a higher moisture content. One quart of brown sugar weighed one pound two ounces. Muscovado sugar is still available in some gourmet grocery stores under the name of “molasses sugar” or Barbados sugar. It has a strong molasses flavor and is unlike modern brown sugar to which molasses is added to refined white sugar. The wholesale price was five and a half cents per pound when purchased in an approximately 1000 pound hogshead.

NEW ORLEANS SUGAR — This referred to the sugar made in Louisiana, and was considered to be an inferior quality to the sugar from the Caribbean. The *Western Journal*, in 1847, reported that only medium and common sugars, and sugar-house molasses came from Louisiana. The cost of this type of sugar ranged from eleven to thirteen cents per pound.

POWDERED or ICING SUGAR — In 1851, Oliver Chase (of NECCO Wafer fame) developed a mill for powdering sugar, which he used in his candy making process and also sold to confectioneries. If a housewife or cook wanted powdered sugar, refined loaf sugar was pounded into a fine powder in a mortar and pestle. The consistency of the period powdered sugar was similar to superfine sugar rather than powdered or confectioners’ sugar. One quart of powdered sugar weighed one pound one ounce.

PULVERIZED SUGAR — Similar to crushed sugar, pulverized sugar was the finely ground dust of other sugars and sifted through a vibrating screen which separated the different sized grains. The cost of pulverized sugar ranged in price from fourteen to twenty cents per pound, depending on the quantity of the sugar.

RAW SUGAR — This term was given to two kinds of sugar; Muscavado sugar or centrifugal sugar before they were cleaned.

SUGAR CANDY — Similar to modern rock candy and both transparent and brown sugar-candy was produced. The syrup that was used to make the sugar-candy was thinner than that used for loaf-sugar and the syrup was not agitated, thus larger crystals of sugar formed on suspended strings or in lumps. Being extremely hard it was more difficult to dissolve, but could be finely powdered. Since all the impurities had been removed, clear sugar candy was the preferred sugar for making jams and jellies. Brown sugar-candy was made from sugar syrup that had not been completely clarified because it contained some impurities. The price of sugar candy ranged from twenty to thirty-eight cents per pound. Both types of sugar candy are still available under the name of rock candy and are now sold on sticks, strings, or in large chunks.

SUGAR CUBES — The first reference to sugar-cubes was found in *Great Industries of the United States* written in 1872: “Much of the best white sugar sold in American cities is sent to market, not in loaves, but in small, square-cut lumps, and the cut, crushed, and pulverized sugar are put up in barrels.” In England, Henry Tate developed sugar cubes in 1872 but they were not commercially produced until 1878. Since sugar loaves are not readily available today, cube sugar is a great substitute for loaf sugar in a recipe since they are as hard as loaf sugar, and may be pounded with the same effect as sugar loaf chunks.

VACUUM SUGAR — Sugar made using a vacuum pan instead of open kettles and also called Demerara sugar.

YELLOW SUGAR — See Demerara sugar.

LIQUID SWEETENERS

BLACK STRAP MOLASSES — The product of the last or third boiling of sugar. It was an extremely thick, dark and bitter syrup and was used in the distillation of rum.

GOLDEN SYRUP — The name given to the light-colored syrup that was the residue of the centrifugal processed sugar or the syrup from the initial refining process. It was also called, sugar-house molasses. Lyle’s Golden Syrup or King Golden Syrup are modern equivalents.

MOLASSES — Molasses was a generic term for the thick, viscous liquid that was drained from the raw sugar or was the product from the second boiling of molasses which was darker, less sweet with a stronger flavor than the lighter syrup from the first boiling. It was this second boiling of molasses from which the better quality of rum was distilled. Molasses was shipped in hogsheads, each holding 130 to 150 gallons. It was priced between fifty and sixty-three cents per gallon. Unsulphured is comparable to nineteenth century molasses.

SORGHUM — See Non-sugar cane sweeteners.

SUGAR-HOUSE MOLASSES — There is some confusion between sugar-house syrup and sugar house molasses. Both are defined in nineteenth century sources but they were conflicting definitions. One source defined it as the light syrup that came from the first boiling of the sugar syrup after the sugar crystals had been removed. It was then filtered using charcoal from animal bones giving it a light color and a mild flavor. (Youmans, p. 221) Another name for this syrup was “golden syrup.” Other sources indicate that it was the lower grade of molasses that was dark and bitter. (Wood) Sugar house molasses sold for seventy-five cents per gallon which may be an indication that it was a higher grade molasses.

SUGAR-HOUSE SYRUP — Most primary sources describe sugar-house syrup as the lowest grade of molasses which came from the third boiling of the molasses. It had a very strong, somewhat bitter

taste, and would be similar to blackstrap (from the Dutch word, *stroop* for syrup) molasses. This molasses was used for the distillation of rum (Ward, p. 216). Other sources defined it as the lighter syrup produced from the first refining process. No price was available for this product.

SYRUP — This term was often seen nineteenth century advertisements and there was indication as to what kind of syrup was intended. The following ad appeared in the *Elmira Weekly Advertiser & Republican*, November 1862, read in part, “SYRUPS, SYRUPS- Stewart's Syrups, the drippings of Loaf Sugar...” Syrup, mentioned in this context, usually referred to molasses, sugar house molasses or sugar house syrup. If maple or sorghum syrup was referenced, the specific type was stated. Corn syrup would not be included in this category until the late nineteenth century.

TREACLE — A product from the second boiling of sugar and resulted in a dark, strongly flavored syrup. It was also known as Refiner's Syrup, Drip Syrup. Treacle is a British term for molasses.

WEST INDIA MOLASSES — Again there is confusion in terminology from nineteenth century sources. Some indicate that it was a lighter molasses (Randolph, p. 191) similar to golden syrup. Other sources indicate that it was a darker and more bitter molasses. (Wood)

NON-SUGAR CANE SWEETENERS

Sweetenings were obtained from sources besides sugar cane. Although, depending upon the location, sugar cane sugar was predominately sold and used in the United States in the nineteenth century, but adverse circumstances often instituted new sources of sweeteners. Maple sugar may have been more common in New England and the other states which produced maple sugar and syrup. Sorghum was a fairly new product but quickly gained popularity during the Civil War.

BEET SUGAR - Beet sugar, or “French sugar,” was made as early as 1747 when it was first developed in Prussia by a chemist named, Marggraf. In France, in 1806, Napoleon encouraged the production of beet sugar, and the chemist, Chaptal, worked with perfecting the process. By 1847, there were more than 400 beet sugar refineries in France and quite a few more in Germany. It was not until the late 1860s that experimentation was done with beet sugar in the United States (mostly in Illinois). In the 1860 United States census (published in 1864) stated, "Beet-sugar is a novelty in this country, but an old story in Europe." The quote was originally published in the *Journal of Commerce of New York*, Nov.11, 1864.

Beet sugar is now more common in the western part of the United States, where sugar beets are grown. It is just labeled as “sugar,” and if the consumer needs cane sugar, one must look for a label that reads, “pure cane sugar.” Even though beet sugar looks like cane sugar, they are not interchangeable in all recipes. In candy-making, cane sugar is recommended because an unpleasant scum will form when beet sugar is boiled. In addition, beet sugar has a mildly musty, vegetative odor when stored in a canister but it dissipates when the sugar is used in foods.

CORN SYRUP — Although attempts had been made to manufacture sugar from corn during the

Civil War it was not successful until 1873. A plant was established in Buffalo, New York for corn syrup, but the process was not perfected until 1880, when it was discovered that when corn starch was treated with an acid solution, the result was an anhydrous [liquid] sugar. It was not in general use until much later and was not mentioned in grocers' handbooks until 1911, where it stated that corn syrup was used for commercial purposes in the manufacture of jellies, jams and confections. (Ward, p. 196) For table use, corn syrup was usually flavored with either cane or maple syrup because it is relatively tasteless, except for sweetness. The recognizable brand name of Karo® corn syrup was first produced in 1902.

CORN-STALK MOLASSES — There was a reference in *The History of Ipswich, Essex and Hamilton* that in 1776, with the shortage of West Indian molasses, some people in the area tried grinding corn-stalks and boiling down the juice to make molasses. Apparently it was tart in taste and was more appropriate for use in cooking than as a beverage sweetener.

HONEY — This was the first sweetening known to man. Honey is the sweet nectar of flowers that has been modified by honey bees. The earliest reference to honey as a sweetener was found in Egyptian writings from 5500 B.C. There are numerous varieties of honey which differ in taste and color according to the type of flower nectar harvested by the bees.

MAIZE, MEXICAN OR CORNSTALK SUGAR — Stalks of green corn or maize yielded a sweet juice, when boiled down, producing a type of dark brown sugar. In 1855, Johnston wrote in *The Chemistry of Common Life*, that production of this sugar had been recently attempted in the United States, but not in the quantity could compete with cane sugar. It was sold in the form of small loaves or chunks and may have been available in the southwest area of the United States in the nineteenth century. The Mexican brown sugar found in ethnic stores is made from sugar cane rather than corn.

MAPLE SYRUP OR SUGAR — The colonists learned how to make maple syrup and sugar from the native Americans. Maple sap is boiled until it is concentrated and the sugar is the crystalized form of the syrup. It was one of the major sweeteners used in this country up until the late nineteenth century and according to the 1860 census, 40,120,205 pounds of maple sugar and 1,597,589 gallons of maple syrup was produced. It was not a major export because of its distinctive maple taste which was not appreciated in Europe.

SORGHUM — Another source of sweetening, newly introduced into the United States in the mid-nineteenth century, was sorghum or Chinese cane (*Sorgo*) or the African cane (*Imphee*). It was introduced in France by Count de Montigny in 1851, and it was granted a patent in the United States in 1854. An advantage of sorghum was that it could grow in colder climates than sugar cane and was produced as far North as Minnesota and Wisconsin. Sorghum was processed much like sugar cane, but only syrup was produced. In the 1860 census, 6,749,123 gallons were produced in the

United States. During the Civil War, when little domestic sugar was made and the imported supply was diminished, sorghum was common in the South. Even in the North sorghum was grown and used, because sugar products were more difficult to import during the war. A number of wartime diaries and post war articles about wartime conditions, recount the growing and processing and the use of sorghum. The taste is stronger and more bitter than that of either molasses or golden syrup. It is still grown and is available in some speciality food stores and historic sites. Sometimes, in the countryside in the fall, there will be roadside stands selling sorghum.

PALM OR DATE SUGAR — India, as well as the Phillipines, the Moluccas, and some South Sea Islands, produced palm sugar, also known as jaggery or gur, by boiling the juice from four species of the palm tree, including the date and cocoanut palms. The result is a rough dark sugar and would probably not have been a common item in the United States during the nineteenth century. This type of sugar is available in some Indian or ethnic grocery stores.

MISCELLANEOUS SOURCES OF SUGAR

Sugar was also made from grapes and other fruits; turnips; parsnips; and grass, but the production of the other types of sugar was done mostly in Europe. During the Civil War there were accounts that fine white sugar was made from watermelons. [The author has tried on numerous occasions to make sugar from watermelon juice, but only has been able to achieve a golden amber syrup. The taste was very good, but it did not granulate.]

MAKING A SUGAR LOAF

It is extremely difficult to locate a proper sized sugar loaf that may be used in a museum display or for demonstration purposes. Nineteenth century store ledgers indicate that family sized loaf weighed between eleven and thirteen pounds but one of that size is difficult to make or handle. The small half pound sugar loaves that are commonly available are too small for an accurate nineteenth century display, but are adequate for demonstrations, where loaf sugar is needed. Loaves of about five pounds are seen in museum displays, but are not available for purchase but making one is not difficult.



The two larger loaves on the left and middle are home-made and, for comparison, the drawing on the right is a conventional sized (11 to 13 pound loaf). The smallest loaf is one that is sometimes sold in stores and the size is NOT historically

Preparing the mold.

Unless one can obtain a correctly sized earthenware mold, modern items may be substituted for the traditional mold. If a loaf similar to those in museums is desired, a large cone-shaped pastry bag may be used with some modifications to the bag. The height is appropriate but the circumference at the base of the bag is too large. To adjust the size, fold the excess portion of the bag and tape the fold in place all along the length. Heavy duty Mylar also may be formed into a cone shape and used like the pastry bag. The green plastic or metal flower cones may be used for a mold but they are a bit smaller than the pastry bag. If a metal cone is used, line the interior with plastic wrap or aluminum foil to protect the surface of the loaf from the paint. Coating the interior of the plastic or metal mold with a vegetable non-stick will make the removal of the loaf easier.

Sugar loaf mixture

The amounts of sugar will vary according to the size of mold that you use, but the proportions would be the same for any amount made.

5 pounds granulated sugar

1/4 cup brown sugar (this gives the cone a slight tan shade, rather than being stark, pure white)

2 egg whites (lightly stirred)

Combine the two sugars and mix well until no pockets of brown sugar remain. Add the egg whites and mix with the sugars with your hands. The consistency of the mixture should be similar to damp sand used for making sand castles. If additional moisture is needed to obtain the necessary dampness, a small amount water of water may be added, a drop or two at the time. After the mixture is damp enough to be moldable, pack it **tightly** into the mold. If the filling is not packed tightly, the loaf will not hold together and will crumble after drying. **TIP:** Stand the mold in a wide mouthed container to hold it upright while you are packing it with the sugar mixture.

Allow the sugar mixture to remain in the mold until it is firm and can stand alone without the mold. Depending on the humidity, it may take a week or more before the loaf may be removed. After extracting it from the mold, let the loaf stand on a plate, undisturbed, until it is completely dry and very hard. It may take two to four weeks to be completely. If you wish the loaf to be extremely hard, it may be heated in the oven at about 125 - 130 degrees for several hours or until thoroughly dry.

After the loaf is dry, you may then wrap it in, first in white paper and then in blue paper. The white

paper may be of any type that is large enough to completely cover the loaf. The best blue paper that is most similar to the original is “Canson” art paper, which is available in large sheets in art supply stores. Sky-blue construction paper also may be used, but the grain of paper is too coarse and the sheets are not usually large enough to cover a correct sized loaf and this paper the color seems to fade quickly. Tissue paper is not strong enough and should not be used. Period images of sugar loaves show that they were not wholly encased in blue paper but only the lower portion of the loaf was covered. The paper came to a “V” shape in the front of the loaf. The under layer of white paper served to cover the top of the loaf.

Two types of “cheater” cones.

If you only wish to display a sugar loaf and not use it, there are two alternatives to the process above.

1. Brown sugar loaf - As far as the author have been able to determine, brown sugar was not sold in smaller sized loaves, but if it is going to stay wrapped and be handled by visitors, this is a short cut. The brown sugar provides the correct weight and is already damp enough to pack tightly in the mold and will dry hard. Take regular light or dark brown sugar and pack it in the prepared mold, following the above directions, using brown sugar instead of the white and brown sugar mixture and omitting the egg white. Again, make sure you pack it firmly. Allow it to dry before removing it from the mold, and after removing the loaf, allow it to completely harden. Wrap the loaf in blue paper and tie with string.
2. Styrofoam sugar loaf - A large Styrofoam cone may also be used, but only if the “sugar” loaf is going to be displayed and never handled by visitors. Choose the appropriate sized cone shape, and round the point of the cone until the correct shape is obtained. Sometimes the base is too wide, and you will need to trim and shape it to the desired circumference. Then wrap the “loaf” in blue paper and tie with string. If this style loaf is placed on a shelf, secure the bottom to the surface, because, due to the lightness of the Styrofoam, a breeze can blow it over.

Using either “cheater” method will produce a period looking sugar loaf, but will not produce one that could be used in actual demonstrations where loaf sugar was needed or where the public will handle the loaf.

Have fun with making your own sugar loaf, and enjoy the experience.

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