



Traditional Treats

We are born with a taste for sweetness. Human milk is sweeter than the milk of other animals. And after weaning, which in traditional cultures occurs on average around 4 years of age, a craving for sweet foods emerges, even when sweet foods (other than mother's milk) were restricted or absent before then. Some researchers suggest that children are hardwired to like sweets and that this served some sort of evolutionary advantage in times when sweet foods were rare. There is also the observation that children like sweetness in intensities that adults don't like. This seems to change when growth stops and the desire for the most intensely sweet stuff turns into an adult version.

Research also suggests that adults have good reason to crave sweets. Sweetness in fruits and vegetables is an indication of high nutrient content. Tree-ripened fruit is sweeter than fruit that is picked before it is ripe. Food grown on rich, balanced soil is sweeter and has a richer flavor than food grown on depleted soil. A Brix meter is used by the industry to measure the amount of sugars in fruits and vegetables, starches, and drinks. It is also used by natural farmers who care about nutritiousness of their produce, as measured by the sugar content.

What is Sugar?

Simple sugars are called mono-saccharides. These are: glucose (dextrose), fructose (levulose), galactose, xylose, ribose. They are the building blocks of more complex sugars.

Complex Sugars are composed of two mono-saccharides that are bonded together, and they are called di-saccharides. These include sucrose (glucose & fructose), maltose (glucose & glucose), lactose (glucose & galactose).

Poli-saccharides are also known as complex carbohydrates, composed of three or more mono-saccharides found in starch and cellulose.

Any di-saccharide or poli-saccharide can be broken down by enzymes into its various constituent mono-saccharides.

Mono-saccharides

Glucose, also called **Dextrose**, is found in starches and milk. We are all born to thrive on milk which

contains lactose, the milk sugar which is composed of glucose and galactose. Thus, glucose is the first sugar we are introduced to, and we need it to fuel our bodies and help us grow. The glycemic index measures how much insulin is released into the blood stream to regulate the amount of glucose in our blood. Too little glucose causes tremors and you can go into shock. Too much glucose causes diabetes.

When you eat a piece of bread, it tastes sweet because the enzyme amylase in our saliva converts the starch in the bread to glucose. Glucose/Dextrose is commercially produced by adding the enzyme amylase to starch. Commercial production in the US almost always uses cornstarch as the starch. Dextrose can be purchased at health food stores or online for about \$5/lb. It is a powder, a bit less sweet to taste than table sugar. The reason is because table sugar is half glucose and half fructose and fructose is sweeter than glucose. **Corn Syrup**, traditionally not a source of sweet syrup, is a by-product of industrial agriculture (corn is subsidized by the government) and is used as a sweetener in most processed foods today. It is mostly glucose.

Fructose is found in fruit, the sap and syrups of plants, and honey (an animal product). It is an indication of ripeness and nutrient density in produce. Sap carries nutrients to the buds and leaves. Honey feeds growing bees. We are introduced to fructose usually after weaning.

When we consume fructose it does not cause much of an insulin response and therefore is promoted as low or absent on the glycemic index. This does NOT mean it's a safer form of sugar. Fructose is almost immediately pulled out of the blood stream by the liver and converted and stored as fat such as triglycerides, therefore it does not float around in our blood stream and hardly registers on the glycemic index. Later, this fat can be converted to glucose in order to fuel the body, as needed. However, most of the fat from consuming fructose is deposited around internal organs such as the liver, kidneys, heart and intestines. Thus, it appears that fructose builds up fat for fuel in lean times, while glucose provides immediate fueling. A good example, is the bear who loads up on berries for hibernation. Most traditional sweeteners are a complex combination of glucose and fructose. When we eat sugars that are a combination of glucose and fructose, we're getting both a food for immediate fueling and a food for storage.

Dr. Richard Johnson, chief of the Division of Renal Diseases and Hypertension at the University of Colorado has published hundreds of articles and two books on how we metabolize sugars -- *The Sugar Fix*, and most recently, *The Fat Switch*. Johnson examines how fructose in particular can trigger the body to gain weight. He suggests that this "metabolic syndrome" is not a disease but rather a survival mechanism of our bodies that has gone awry with our modern lifestyle and the consumption of industrially processed sugars. See <http://www.youtube.com/watch?v=OOJ3SiRj4AQ> for lectures by Dr. Johnson on sugar consumption and obesity, hypertension and diabetes.

High Fructose corn syrup, is very high in fructose, as the name implies. There are two kinds of HFS. One is 50/50 fructose and glucose, which is the same as cane sugar. Another kind is 60/40, which is the more dangerous of the two. An industrial process converts the glucose in corn syrup to fructose which makes it sweeter and more marketable. It is commonly used in sodas and other processed foods today. High Fructose Corn syrup can alter human metabolism. According to GreenMedInfo.com, scientific studies have linked too much fructose to about 30 different specific diseases and health problems. It can,

1. Raise your blood pressure and cause nocturnal hypertension
2. Raise your uric acid levels which can result in gout and/or metabolic syndrome
3. Exacerbate cardiac abnormalities if you're deficient in copper

4. Cause tubulointerstitial injury (injury to the tubules and interstitial tissue of your kidney)
5. Insulin resistance/Type 2 Diabetes
6. Accelerate the progression of chronic kidney disease
7. Have a genotoxic effect on the colon
8. Promotes obesity and related health problems and diseases
9. Non-alcoholic fatty liver disease (NAFLD)
10. Intracranial atherosclerosis (narrowing and hardening of the arteries in your skull)

See Dr. Mercola's website for more information on the dangers of high fructose corn syrup.

<http://articles.mercola.com/sites/articles/archive/2010/01/02/HighFructose-Corn-Syrup-Alters-Human-Metabolism.aspx>.

Agave nectar consists primarily of fructose. One source gives 92% fructose and 8% glucose; another gives 56% fructose and 20% glucose, depending on the vendor. It is sweeter than both sugar and high fructose corn syrup. It is used by vegans to replace honey in order to avoid using animal products. Consumption of large amounts of fructose is not healthy, as noted above. Another concern about Agave nectar is the highly processed, unnatural production methods that leave toxins in the syrup. It does not appear to have ever been used as a traditional sweetener.

Di-saccharides

Lactose is a fusion of the two simple sugars: glucose and galactose. Lactose cannot be directly absorbed by a healthy digestive system. It must be broken down into its components, glucose and galactose, by lactase, an intestinal enzyme that is present in unpasteurized milk. There are multiple ways that the body converts galactose rapidly into glucose, so the outcome of drinking milk is that the body receives glucose. There is no fructose in the process.

Maltose is formed by fusing two units of glucose. It is 100% glucose. Barley malt is a good source of maltose. It sells for \$2-\$5/lb. It is sweeter to the taste than lactose but only about half as sweet as simple glucose.

Sucrose is a fusion of 50% glucose and 50% fructose. The presence of fructose makes it sweeter than maltose or lactose. Sucrose is present in table sugar, fruits, saps, and most traditional sweeteners.

Many traditional sweeteners are a combination of glucose and fructose: maple sugar, palm sugar, sugar cane, and honey. These foods are a complex combination of sugars, balanced out by the minerals, vitamins, enzymes, and pulp that accompany them and help us digest them. When eaten with fats we can buffer the effects of these sugars in our bloodstream by slowing down their absorption. A baked potato with butter, cheese cake, oatmeal slathered with butter and raw honey, or a slice of bread with butter and cheese, are all energy dense foods. If eaten in excess, sugar gets stored as fat when we are not active enough to burn it up. It appears that fructose always gets stored as fat.

Traditional Sweeteners



Barley Malt Syrup is primarily maltose (glucose), with some iron, magnesium, zinc, and vitamin E. Barley grains are allowed to sprout, or germinate, then dried, often in a kiln or quick drying oven, and next slowly cooked so that they form a sweet, dark syrup. The syrup is strained to remove impurities. This develops the enzymes required to modify the grain's starches into sugars. It is about 1/2 as sweet as glucose. It has been used in Asia for centuries. Similarly, rice syrup such as **Amazake**, is a traditional sweetener in Japan, made by fermenting rice with the Koji bacteria. Barley malt syrup was popular in the first half of the twentieth century as a supplement for the children of the British urban working-class, whose diet was often deficient in vitamins and minerals. Cod liver oil was combined with malt syrup to produce "Malt and Cod-Liver Oil." It was given as a "strengthening medicine" by Kanga, Roo, and Tigger in The House at Pooh Corner. Malted milk powder was invented in 1897 as an easily digested restorative health drink for invalids and children. Malted milk contains dried milk, malted barley and wheat flour. Malted milk drinks became popular in the United States in the 1920s with the invention of the electric blender.



Maple Syrup is primarily sucrose and water. It has a relatively low mineral content, with some potassium and calcium, zinc and manganese, trace amounts of amino acids, and some malic acid makes the syrup slightly acidic. Maple syrup is indigenous to the people living in the northeastern part of North America who were the first groups known to have produced maple syrup and maple sugar. Sugar houses were traditionally inherited by Native American women from their mothers. The sap of the sugar maple, red maple, black maple, or manitoba maple is cooked down slowly into a syrup or a crystallized-solid form. Canada produces more than 80 percent of the world's maple syrup today. Vermont is the biggest producer in the United States. Grade B maple syrup is the least refined, has the most minerals, most flavor, and is darker in color. Make sure formaldehyde is not used in the production process. Dried maple sugar comes in powder form or pressed into dried cakes.



Honey is made from plant nectar (sucrose) by the honeybee. It is typically composed of fructose 38.2%, glucose 31.3%, maltose 7.1% , sucrose 1.3% , water 17.2%, ash 0.2%. The source of the nectar determines the color, flavor, and texture of honey. Honey should be consumed raw, not heated above 117 degrees. Use it in desserts that are not heated. If you bake with it or put it in hot tea, you destroy the enzymes and thus it becomes just another sweetener with minerals in it. Honey contains minerals and enzymes that digest carbohydrates which makes it a good sweetener to spread on breads or eaten with cereals and grains. Honey is an anti-bacterial useful for disinfecting and healing wounds. Local pollens in raw honey can help reduce seasonal allergies.



Sorghum Syrup comes from sweet sorghum, a grain related to millet. It thrives in drier and warmer conditions than many other crops and is grown primarily for forage, silage, and syrup production. The syrup is made from boiling down the sap of the stalk, similar to the process of making maple syrup. It contains vitamins and minerals, calcium and phosphorus. Sorghum syrup is traditionally eaten with hot biscuits, pancakes, cornmeal mush, grits and other hot cereals in the Southern United States. It can be used as a cooking ingredient with similar effects as molasses, although blackstrap molasses (a by product of the cane sugar industry), provides far more nutrients. Sweet sorghum syrup is sold in India where sorghum is produced for bio-fuel by squeezing the juice and then fermenting into ethanol. I was not able to find the proportion of glucose and fructose in the composition of the syrup, but it is not as sweet as cane molasses or maple syrup.



Sugar Cane is native to the tropical regions of Asia. It is used to produce **Cane Sugar**, or Table Sugar which contains sucrose (glucose and fructose). Sucrose, extracted and purified in specialized mill factories, is used to make table sugar or is fermented to produce ethanol, a low pollution fuel. This probably accounts for the surprising fact that sugar cane is the largest crop in the world. Sugar cane is

also the plant with the highest ability to convert sunshine into biomass. The young stalks can be eaten raw, steamed, or toasted. Before the 18th century, cultivation of sugar cane was largely confined to India. Between the sixth and fourth centuries BC, the Persians, followed by the Greeks, discovered sugar cane, and cultivation spread gradually. Until the 18th century, sugar was a luxury item of the spice trade. In colonial times, sugar formed one side of the "triangle trade" of New World raw materials, along with European manufactured goods, and African slaves. Boiling houses in the 17th through 19th centuries converted sugarcane juice into raw sugar. These houses were attached to sugar plantations in the western colonies. Sugar, usually in the form of molasses, was shipped from the Caribbean to Europe or New England, where it was distilled into rum. The profits from the sale of sugar were then used to purchase manufactured goods, which were then shipped to West Africa, where they were bartered for slaves. Today, Brazil is the largest producer of sugar cane (mostly for ethanol).

Whole, Dehydrated Cane Sugar is sugar with all the minerals and vitamins of the plant. Sugar crystals harden around a sticky core of molasses that contains most of the nutrients. Raw, brown, natural, Florida Crystals, or Turbinado sugar are not whole sugar. They are a refined sugar to which they add molasses back in to give it a beige or brown coloring. There is some confusion around the brandname Sucanat as to whether or not it is an unprocessed sugar.

Molasses is a byproduct of creating refined cane sugar. Each tablespoon of molasses contains sucrose 5.88 g, glucose 2.38 g, fructose 2.56 g. Molasses contains no protein or dietary fiber and close to no fat. In Nepal it is called chaku and is used in the preparation of various condiments and traditional dishes. The best form of molasses is unsulphered molasses which comes from the mature stalk. The majority of sucrose from the original juice has been crystallized and removed and, unlike refined sugars, molasses contains trace amounts of vitamins and significant amounts of minerals. Blackstrap molasses comes from the third boiling, has a robust flavor and is a source of calcium, magnesium, potassium, and iron. One tablespoon provides up to 20% of the daily value of each of those nutrients. A tablespoon of blackstrap molasses will help soothe growing pains in children. Mixed with raw milk, cream, a raw egg, and chocolate powder, it makes a delicious, nutritious chocolate milk shake.

Jaggery (known as gur or gul in India), is traditional, unrefined whole cane sugar consumed in Asia, Africa, Latin America and the Caribbean. In Asia it is also made from the sap of the date palm tree. In Latin American and Caribbean it is called **Rapadura**. Traditionally, the syrup is made by boiling raw sugarcane juice or palm sap in a large shallow round-bottom vessel to make a thick sludge, and then cooling and molding it into lumps or in buckets. This makes it easier to transport and store. It can be restored to its liquid state by gently heating. Jaggery can vary from golden brown to dark brown in color and contains both crystals and molasses: up to 50% sucrose, up to 20% inverted glucose and fructose. Inverted sugars are obtained by splitting sucrose into its two components. Compared with its precursor, sucrose, inverted sugar is sweeter and its products tend to remain moister and are less prone to crystallization. Inverted sugar is therefore valued by bakers, who refer to the syrup as *trimoline* or *invert syrup*. Acid, such as lemon juice or cream of tartar accelerates the conversion of sucrose to inverted fructose and glucose. The moisture content of jaggery is up to 20%, and the remainder is made up of other insoluble matter such as wood ash, proteins and bagasse fibers. Jaggery is widely used in Indian cooking. South Indian foods like rasam, dal and sambar are prepared with jaggery. In addition to being consumed in its raw form, it is used in the traditional dishes where it lends a touch of sweetness to the sourness and spiciness of the food. It is also used in the preparation of alcoholic beverages, candy, toffees, jaggery cakes and other similar sweet preparations. Its regular usage is advocated in the daily diet as it is a healthy and unrefined form of sugar. Jaggery is used to coat the insides of a tandoor oven to give dishes a better flavor. In south east Asia, jaggery is prepared from palm syrup. In Burmese cuisine, jaggery is a highly relished delicacy and is prepared with coconut shredding, plum

purees or sesame depending on the area. It is regarded as delicacy and is referred to locally as Burmese chocolate. It is used to enhance the flavors and the colors of the dishes.

The sugar beet is a plant whose tuber contains a high concentration of sucrose (glucose and fructose). It grows exclusively in the temperate zone, rather than the tropical and subtropical zones like sugar cane. In the 16th century sugar beets were boiled down to make a sugar syrup, in place of sugar from the far east. In 1801 a factory in Prussia succeeded to extract sugar from beet root. The beet sugar industry in Europe rapidly developed after the Napoleonic Wars since Napoleon actively promoted local production of sugar from the beet root and prohibited any further importation of sugar from the Caribbean effective 1813. The beet is not a traditional source of sweet syrup. Traditionally, beets have been enjoyed as a sweet tuber and eaten with meat and savory dishes.



Fruit in general is high in fructose, accompanied by the vitamins, minerals and pulp of the fruit.

Ripe grapes (and raisins) are among the sweetest of all fruits. They are composed of 1/2 glucose and 1/2 fructose. In over-ripe grapes, the amount of fructose is higher.



Coconut palm sugar is tapped from the nectar of the flower of the coconut palm. Coconut sugar has been used as a traditional sweetener for thousands of years in the South and South-East Asian regions. Coconut sugar comes in crystal or granule form, block or liquid. Farmers make a cut on the flower and the sap that flows out is collected in bamboo containers, transferred into giant woks and placed over moderate heat to evaporate the moisture content of the sap. Coconut sugar is a rich source of potassium, magnesium, zinc, and iron. It contains vitamin B1, B2, B3 and B6. Coconut sugar has 36 times the iron, four times the magnesium, and over 10 times the amount of zinc as brown sugar. The coconut sap, from which coconut sugar is derived, contains 16 amino acids. Coconut sugar contains sucrose (70-79%) followed by glucose and fructose (3-9%) each. Since sucrose is 50% fructose and 50% glucose, this means coconut sugar is 48% fructose, which is quite high. Do not overdo it. The Glycemic Index of coconut sugar is 35, which is low and is considered safe to use for diabetics. By comparison, most commercial Agaves are GI 42, Honeys are GI 55 and Cane Sugars are GI 68. Coconut sugar can be used as a 1:1 sugar substitute for coffee, tea, baking, and cooking. The Food and Agricultural Organization (FAO) has reported that coconut palm sweeteners are the single most sustainable sweetener in the world. (See <http://gfrealfood.com/2011/01/22/coconut-palm->

sugar-friend-or-foe/ for more info on this impressive sweetener).

Date Palm sugar is harder to come by than coconut palm sugar. It is made from the sap of the date palm, also called Neera, It is mostly sucrose (50% glucose, 50% fructose). The sap of the date palm is regarded as the ideal source for producing the best type of sugar and it is, therefore, highly valued. Palm sugar **Jaggery** is produced from the sago and the coconut palms in the southernmost parts of India.

Date sugar is made from dehydrated medjool dates. It is 49% fructose and 51% glucose: Date sugar does not dissolve easily and is not recommended for baking. It is excellent over oatmeal.



Stevia is an herb native to South America which contains the glycosides (stevioside and rebaudioside) that give it a sweet taste. Glycosides are molecules that contain glucose and other non-sugar substances. Our taste buds react to the glucose in the glycosides. In the digestive tract rebaudiosides are metabolised into stevioside and stevioside is then broken down into glucose and steviol. The glucose released in this process is used by bacteria in the colon and not absorbed into the blood stream. Steviol cannot be further digested and is passed from the digestive system in urine or feces. Stevia can stimulate a slight spike of insulin nonetheless, just from the taste of sweetness. The refined white stevia powder that is most commonly available in the health food stores, has been stripped of any nutritional, medicinal value that the herb provides in its whole form. Stevia leaf powder is available from Frontier Herbs and a sweet liquid extract can be made from it to add to tea and other foods. Stevia is difficult to use in baking because it does not have the body of sugar, but is excellent in wet foods. In the 1970s, Japan wisely started using Stevia as a sweetener in soft drinks (including CocaCola) when artificial sweeteners were suspected to be carcinogens. Japan currently consumes more stevia than any other country, with stevia accounting for 40% of the sweetener market. You can grow it like a house plant and use the leaves fresh in salads to add a nice flavor, or dry them for tea. The whole leaf stevia also appears to have medicinal properties. Preliminary evidence suggests that it may lower blood pressure, prevent and reverse diabetes, and possess anti-viral properties.

Liquid Stevia: boil 4 cups water, add ½ cup dried stevia leaf powder, cover and simmer for 3 minutes. Let steep till cool. Strain and refrigerate. For smaller amounts, you can put powder in a coffee filter, pour hot water over it and let steep 5 minutes. Strain and put in a small bottler with a dropper.

What About Those Cravings?

Sugar, like fat, can be viewed as a sacred food, a nectar of the gods, as long as it is treated with care and respect. In traditional cultures, sweet foods were hard to overeat. Today, we not only consume too much sugar, but we consume industrially refined sugars that have been stripped of the minerals, vitamins and enzymes needed to digest them. Like milk, meat, and fat, sugar has been abused by the

food industry, turning it into a toxic, addictive substance. Sally Fallon reminds us that in nature, sugar and carbohydrates are linked together with vitamins, enzymes, protein, fat and fiber. In their whole form, sugars and starches support life. In their refined form, they are devoid of body building elements and the body needs to use up its own store of vitamins, minerals, and enzymes to digest refined sugar. That is why they are called “empty” calories that deplete the body's reserves. But refined sugars not only deplete our bodies, they also stress the system, rather than nourish it, with a flood of instant, false energy that overstimulates insulin and hormones, acts like a drug and becomes addictive. For Weston A. Price, refined sugar was one of the main “displacing foods of modern commerce” that threatened traditional, healthy diets. Jessica Prentice, in her discussion of the “sap moon” notes that while we are all taught that “sugar rots the teeth” Price's work went much further:

Sugar's propensity to rob the body of minerals and vitamins contributes to a *general and universal* deficiency where the body simply does not have the nutrients it needs to build healthy bones, teeth, and organ systems. Teeth are only the most visible and easily studied aspect of a whole process of physical degeneration that our modern diet precipitates. Not having enough room in the skull for the teeth often indicated that the pelvic cavity might be incompletely formed (causing painful and difficult childbirth), the skeleton would be weak overall, and the body's lack of nutrition would eventually make it susceptible to degenerative diseases, compromised immunity, and cognitive, mental, and emotional difficulties. We are watching this correlation play out in our modern culture.

Simply put, when we consume too much refined sugar the body will no longer have enough nutrients left to keep itself in good health. Children suffer from hyperactivity and behavior problems. All ages experience fatigue, poor concentration, hypoglycemia (low blood sugar), yeast infections, and a weakened immunity to illness. Sugar consumption plays a role in many serious diseases such as heart disease, cancer, diabetes and arthritis, and it is the leading cause of tooth decay, which often leads to other health problems.

Because of the serious problems associated with too much sugar and refined sugar, we often resort to simplified black and white solutions such as “sugar bad, honey good”. In general, it is better to consume a sugar in its natural form. However, is a jelly made with “natural” concentrated grape juice really healthier than a jam made with cane sugar as the sweetener? Concentrated grape juice is probably much higher in fructose than the cane sugar. Fruit juices as a drink for children may sound 'natural' but they are a concentrated source of fructose and in terms of its sugar content, really not much better than a soda sweetened by high fructose corn syrup. It may have more vitamins but they are both too sweet to be safe. Honey may not kick our blood sugar as much as cane sugar, but that is because it is high in levulose which is identical to fructose and therefore does not register on the glycemic index. Honey comes with many healthy components but it is easy to overdo it. Dr. Mercola recommends that we limit fructose to 15 grams per day. That is: a cup of blueberries, a few grapes, or an apple. Nor is it safe to overdo glucose either. Unrefined cane sugar, maple syrup, and honey, are all are composed of sucrose with some free fructose and glucose, accompanied by minerals, vitamins and enzymes. They each have their own particular flavor. Because of the vilification of “sugar”, artificial sweeteners have been developed by the food industry. They are not the topic of this workshop, but suffice it to say that they have been linked to health problems that are far worse then the problems associated with sugar.

Sally Fallon's best advice is to limit the intake of all sweets, have desserts once week or on special occasions only, never to eat anything that is too highly sweetened, and never eat sweet things without some fat to accompany them: cream on fruit, real ice cream, butter and eggs in cakes and pies. Fats not only slow down absorption of the sugars into the bloodstream, they also provide fat soluble nutrients to

nourish the glands involved in regulating blood sugar. She acknowledges that limiting sugar in a child's diet is one of the hardest challenges of parenting in today's world. Jessica Prentice points out that traditional, indigenous diets use sweet things combined with other foods. Dessert, as a course of sweet dishes at the end of a meal, began in Europe as part of colonial expansion that brought an excess of sugar to the European table. Traditional dishes such as English mince meat pie was a mixture of beef suet, dried fruit and spices baked in a shell. Another good example is pemmican, a food of the Native Americans that lived on the Plains, adopted by earlier explorers and trappers. Pemmican consists of lean beef, suet or tallow, dried berries, and maple syrup (see recipe in *Nourishing Traditions*). Vilhjalmur Stefansson, in *Fat of the Land* notes that it is considered a “complete food in the sense that it will keep a hardworking man in top form for any length of time in any climate”. It was preserved in rawhide, without any preservative such as salt, and lasted in good condition for ten, twenty, and more years. Native Americans in 1755 put their maple sugar in bear's fat and dipped roasted venison into the sweet mixture. In Thailand, palm sugar is put in curries together with coconut mil, meat, fish sauce and spices. Chutneys and relishes are served with main meals that contain dried or fresh fruits. In sub-Saharan African cuisine stews combine meats, fruits and spices. Sauces in Asian cooking always combine sweet with salty and spicy to make classic sauces such as teriyaki, yakitori. It makes sense to weave sweetness into the larger meal from a point of view of health. When accompanied by fat, protein, vitamins and balanced by minerals, the sugars are absorbed slowly and evenly into the body.

Normal cravings for sugar are a sign of hunger and can be addressed by eating nutrient dense food, including protein, properly prepared grains, and plenty of fat. Strong, persistent sugar cravings are a sign of mal-nourishment, candida overgrowth, and/or addiction which can be addressed in children by removing sugars from the diet and increasing real foods, either slowly or cold turkey. The GAPS diet is particularly well suited to address this problem (see gapsdiet.com for more info). We all fall victim to sugar cravings. Such is the nature of the “beast”. Traditional cultures, who had never experienced any refined sugars, succumbed when introduced to it. The only defense against the dangers of too much sugar is education and awareness. The best defense against a sugar addiction in children is to raise them on a high nutrient dense diet with no added sugars in their food as long as possible (ideally till age 4 if possible). A varied and nutrient dense diet that includes plenty of animal fats, bone broth, fermented veggies, raw, fermented dairy and soaked grains will help the child develop good health and a robust palate for many different foods, flavors, and textures. Initiate age appropriate discussion and education as early as possible. Children learn that a shot of something sweet tastes good and feels good. They also learn that too much sugar does not feel good. Long after weaning, my daughters still wax nostalgic for that special sweet taste of breast milk (along with the cuddles and loving embrace). Sweetness is an experience, a longing for home and contentment. All is well when we are well fed.

Recipes

Divine Raw Chocolate Bits

1/2 cup coconut oil
3/4 cup raw cacao or cocoa
5 T (approx) honey

Melt coconut oil and cocoa in a double boiler. Add honey. Do not over-heat so the honey stays raw. Just until everything is dissolved. Remove from fire and put into a metal dish to freeze for 15 minutes or so until hard. Take out and break into pieces. Store in glass jar.

Maple-vanilla Panna Cruda

Jessica Prentice, *Full Moon Feast*

Serves 4

1 cup raw cream or crème fraîche
1 teaspoon vanilla extract
1 tablespoon Bernard Jensens' gelatin or 2 teaspoons Knox gelatin
pinch of salt
¼ cup maple syrup or to taste. Start with 2 tablespoons and then taste.
Pinch of salt

Put cream or crème fraîche into a bowl with vanilla extract and maple syrup.
Dissolve gelatin and pinch of salt in ½ cup of almost boiling water. Allow to cool.
Stir gelatin mixture into the cream.
Add maple syrup to taste.
Pour into 3 or 4 little dishes. Place in freezer until gelled (about ½ hour).
Serve as is or with fresh berries or fruit.

Hannah's All-Raw Milk Ice Cream

Combine the following, mix well, and pour into the chilled crock of your ice cream maker. Follow instructions for processing the ice cream, then transfer into a shallow plastic container and store in the freezer.

3 cups raw cream
3 organic pastured egg yolks
¼ cup raw honey
2 tbsp. Organic fair-trade vanilla extract
1 tbsp arrowroot (optional)
one vanilla bean pod, scooped out (inside pulp only) or 1 tbsp vanilla extract

Coconut and Palm Sugar Semifreddi

Jessica Prentice, *Full Moon Feast*

Serves 4

1 can (13.5 oz) organic coconut milk
½ cup palm sugar
A couple of pieces of star anise and/or orange peel or other exotic sweeteners
spice (optional)
1 tbspn Bernard Jensen's gelatin or 2 teaspoons Knox gelatin
pinch of salt

Heat coconut milk gently. Add palm sugar and star anise or other spice. Stir gently to dissolve. When hot, add gelatin and salt and stir. Pour through strainer into small dishes or glasses. Let cool in a freezer about ½ hour. Depending on the coconut milk, it may separate into two layers or retain a creamy texture. Delicious either way!

Cardamom and Jaggery Rice Pudding

Jessica Prentice, Full Moon Feast

Serves 4

1 can (13.5 oz) coconut milk or substitute 1 ½ cups milk or half and half
¼ tspn ground cardamom
¼ cup jaggery or gur (available in Indian markets)
2 ½ cups leftover well-cooked rice
½ tspn vanilla extract
pinch of salt
slivered pistachios or almonds, or a sprinkling of cardamom for garnish (optional)

Gently heat the coconut milk or dairy

Add cardamom

Add jaggery till it dissolves.

Add rice, vanilla, salt (if rice was not salted when cooked)

Stir till the rice breaks up, and bring to a low simmer.

Cook 5-10 minutes until thick.

Serve warm with a dusting of cardamom or slivered nuts on top.

You can also make this desert with palm sugar, maple syrup, or other sweeteners.

Lucia's Apple/Beet Flourless Coconut Muffins

1/4 cup coconut flour
1/2 tsp baking soda
pinch salt
2 Tablespoons cinnamon
1/2 cup shredded coconut
1 cup grated beets (or carrots)
4 eggs
1 cup grated apples (2 or 3 apples)
1/2 tsp vanilla extract
1/4 cup melted butter (use melted lard to make these dairy free-it's just as good!)
3/4 cup raisins

Preheat the oven to 350F.

Grate apples and beets.

Mix dry ingredients into a bowl (coconut flour, baking soda, salt, cinnamon, and shredded coconut).

Place the eggs in a separate bowl and whisk to combine the yolks and whites (about 1 minute).

Mix in the vanilla extract.

Stir in the grated apples and beets and the butter.

Mix wet ingredients into dry and stir well.

Add 3/4 cup raisins (optional).

Line a muffin tin with 9 chlorine-free paper muffin liners.

Fill each paper liner up to the top, or just a hair below.

Bake at 350 for 30 minutes and check to make sure that a toothpick inserted into muffin comes out clean. Let cool before eating! Top with cream cheese icing if so desired.

Cream Cheese Icing

Sally Fallon, *Nourishing Traditions*

2 cups cream cheese
½ cup butter, softened
1 tbspn vanilla
1/2-3/4 cup raw honey

place everything in a food processor and blend until smooth.

Crispy Nuts

Sally Fallon, *Nourishing Traditions*

4 cups Almonds (without or without skins) & 1 tbspn sea salt
or: 4 cups of walnut pieces & 2 tbspn salt
or: 4 cups raw, hulled pumpkin seeds (pepitas) & 2 tbspn sea salt
well water or filtered municipal water

Mix nuts with salt and water and leave in warm place overnight. Drain and spread on a stainless steel baking pan. Dry in a warm oven (no more than 150 degrees) or a dehydrator for 12 to 24 hours.

Because of enzyme inhibitors in raw nuts, it is very important to soak and dry your nuts before eating. It improves their flavor and their digestability!

Salmon Jerky

Sally Fallon, *Nourishing Traditions*

makes about 2 cups

1 ½ pounds fresh salmon, skin removed
½ cup naturally fermented soy sauce
1 tspn freshly grated ginger
3 cloves garlic, peeled and crushed
1 tspn raw honey or pinch of stevia powder

Mix soy sauce with ginger, garlic, and honey or stevia powder. Cut salmon into strips, about 3/8 inches by 4 inches. Dip into soy sauce mixture and place on a rack, set over a cookie sheet, in 150 degree oven for 14 hours until dehydrated, or dry in a dehydrator. Store in airtight container in the refrigerator.

Sweet Baked Beans

adapted from Sally Fallon, *Nourishing Traditions*

serves 6-8

4 cups small white beans
2 tbspn whey or lemon juice
2 medium onions, chopped
1 small can tomato paste
3 tbspn naturally fermented soy sauce
3 tablespoons apple cider vinegar

¼ cup maple syrup
¼ cup molasses
3 cloves garlic, mashed
1 teaspoon salt
1 cup dried cherries (optional)

Soak beans in warm water and whey or lemon juice for 24 hours in a warm place.
Saute onions in butter and oil.
Drain beans and place in slow cooker with stock.
Add onions.
Mix remaining ingredients and add to beans and onions.
Add 1 lb sausage or stew meat or bacon.
Let mixture cook for the day on slow.

Recommended Reading

Nourishing Traditions, Sally Fallon
Full Moon Feast, Jessica Prentice
Wholesome Home Cooking, Katie Stolfus
Fat of the Land, Vilhjalmur Stefansson,
The Sugar Fix, and The Fat Switch, Dr. Richard Johnson

<http://www.westonaprice.org/beginner-videos/healthy-snacks-video-by-sarah-pope>
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<http://articles.mercola.com/sites/articles/archive/2010/01/02/HighFructose-Corn-Syrup-Alters-Human-Metabolism.aspx>.