

# All about Sugar

## Avoid

Sugar, sucrose, glucose, cane sugar, corn syrup, corn sweeteners, dextrose and caramel. Sugar is sugar and should be eliminated in all of its forms including white, brown or raw sugar, molasses, sorghum and any foods that contain sugar in any of the above stated forms.

Be aware that many prepared foods contain sugar. Always read the labels of all food items that you may purchase.

## Label Reading Sugars- “The Bad Guys”

**Sucrose** -table sugar made from highly processed sugar cane or sugar beets, devoid of nutrients. ( glucose & fructose)

**Fructose**- fruit sugar, is a simple sugar found in honey, tree fruits, berries, and melons. Caution: Crystalline fructose from corn or sucrose ( table sugar)

**High Fructose Corn Syrup** -made from starches like corn, wheat, and rice. (glucose & fructose) . 1.2-1.8 sweeter than sucrose and cheaper . Low GI but processed in liver . If excess liver turns excess fructose into fats-triglycerides increasing risk of insulin resistance & diabetes. Devoid of nutrition.

**Sugar Alcohols or Polyols- ie Maltitol, maltitol syrup, sorbitol, mannitol, xylitol, lactitol, erythritol, and isomalt** . Found naturally in plants but usually made from sugars & starches. Less calories than sugars but they can ferment in the intestines causing gas, bloating, and diarrhea.

## Avoid-Artificial Sweeteners



## Artificial Sweeteners

Artificial sweeteners are regulated by the USDA

There is no clear evidence that the artificial sweeteners available commercially in the United States are associated with cancer risk in humans

Studies have been conducted on the safety of several artificial sweeteners, including saccharin, aspartame, acesulfame potassium, sucralose, neotame, and cyclamate

## How Much Sugar Is Too Much?



## How much sugar is too much?

**\*AMA WOMEN 6 TSP/DAY MEN 9 TSP/DAY KIDS 3 TSP = 12 GRAMS/DAY**

Fruit loops ( 91% carbs ) 3 tsp

Hersey's candy bar 7 tsp

Apple sauce 3.5 tsp

Cup cake 5.5 tsp

Coke 10 tsp

Chicken tenders 3 tsp

Kraft dinner 2 tsp

Vitamin Water/Energy drinks 8 tsp

*Eating or drinking 100 grams ( 8 tbsps) of sugar or 2.5 12 ounce cans of soda can suppress the ability of white blood cells to kill germs by 40% within 30 minutes after eating for up to 5 hours. (<http://www.askdrsears.com/html/4/t045000.asp>)*

### Substitute

Honey, pure maple syrup, agave syrup, date sugar, barley malt (contains some gluten) and rice syrup/malt and stevia or Xylitol. Although honey and pure maple syrup are available at grocery stores, the remaining substitute sweeteners are most easily located at health food stores. Fructose is best as part of a whole food eg.. fruits.

## Label Reading Sugars “The Good Guys”

**Glucose**- simple sugar from digestion of carbohydrates. The body's chief source of energy

**Fructose**- fruit sugar, is a simple sugar found in honey, tree fruits, berries, and melons. **Caution: Crystalline fructose from corn or sucrose ( table sugar)**

**Maltose**-malt sugar, is half as sweet as sucrose (table sugar). It is produced from starch (barley, wheat, rice or other grains).

**Lactose**-sugar found naturally in milk

**Xylitol**- naturally occurring in many of the fruits and vegetables

**Date Sugar**-100% dehydrated dates ground into small pieces. It is a whole food, high in fiber, vitamins, and minerals

**Fruit, Stevia, Yacon Syrup, Agave Syrup, Rice Syrup, Coconut Sugar, Barley Syrup, Honey, Maple Syrup, Black Strap Molasses**

\*All sweeteners to be used in moderation

## Glycemic Index Sweeteners

# Glycemic Index Natural Sweeteners

Natural Sweetener	Glycemic Index Rating
Stevia	0
Yacon Syrup	1
Xylitol	8
Agave Nectar	15
Fructose	17
Rice Syrup	25
Date Sugar	32
Coconut Sugar	35
Apple Juice	40
Barley Malt Syrup	42
Honey	50 (30 raw)
Maple Syrup	54
Blackstrap Molasses	55
Turbinado Sugar	65
Refined White Sugar	99

(Based on the glucose index. To convert to white bread (starch) index multiply by 1.4)  
Reference: (1) <http://www.whfoods.com/genpage.php?tname=foodspice&dbid=96>  
(2) [http://breastcancer.about.com/od/cancerfightingfoods/a/natural\\_sweetener.htm](http://breastcancer.about.com/od/cancerfightingfoods/a/natural_sweetener.htm) (glucose index)  
(3) Kaye Foster-Powell, Susanna HA Holt, and Janette C Brand-Miller, International table of glycemic index and glycemic load values: 2002, Am. J. Clin. Nutr. 2002; 76:5-56.

Instead of fruit juice boxes or store bought juices, juice your own.

Instead of regular peanut butter have 100% natural peanut butter or other nut butters eg ABC spread

Instead of canned products eg. soup/ baked beans/spaghetti - make your own

Instead of box cereals with sugar have porridge or sugar-free cereal from health food store.

Instead of regular condiments like ketchup and mayonnaise look for sugar-free options.

Instead of prepared salad dressings, make your own olive oil and lemon and garlic

Instead of teriyaki sauce have soy sauce / tamari mixed with honey.

## Sugar Substitutions in Baking

If you are subbing a dry sweetener where a wet is called for, increase the wet ingredients by 1 tbsp per cup.

If you are subbing a wet when dry is called for, you will need to reduce the wet ingredients in that recipe as

indicated below. Each item below is equivalent to 1 cup of sugar. Listed in order of low glycemic index to highest.

### Fruit:

Add fruit to add “hits of sweetness” ie berries, apples, lemon zest and nuts ( walnuts, pecans). (tart & richness of sweeter nuts enhances overall sweetness)

### Dried Fruit:

Dried dates, figs, raisins, apricots, prunes and other sweet dried fruit add significant sweetness to a recipe. You can chop them for pockets of sweetness or soak overnight then puree them as a liquid sugar substitute. They also add fibre, binding capacity, and moisture to a recipe.

**Stevia: 6 drops = 1 tbsp sugar, 1 tsp= 1 cup sugar**

**1 cup sugar = 1 tsp stevia and ¼ -½ cup apple sauce, pumpkin or banana**

**300X sweeter than sugar, 0 calories, Glycemic Index 0.** From the stevia plant. Contains: Stevioside, Rebiana, Chromium, Magnesium, Manganese, Potassium, Selenium, Zinc, Niacin . Increase both wet & dry ingredients.

Stevia is a very sweet sugar alternative. If you are using it in your baking to replace sugar, you will have to increase both the wet and dry ingredients to accommodate the loss of volume from the sugar. Use ¼ to ½ cup applesauce, pumpkin, or banana to replace the lost volume and moisture of 1 cup of sugar. Stevia also has a pronounced flavour that not everyone loves- it may be best used to sweeten beverages, custards, icing, etc.

**Yacon Syrup: ¾ cup = 1 cup sugar**

Potassium & the antioxidant vitamins A, C and E., 30% fructooligosaccharides (FOS) ( prebiotic) Glycemic Index 1

Made from a tuber from South America, this syrup is a great replacement to those who are severely sensitive to molasses. It is dark, thick, cinnamon-like in scent, and only half the sweetness of molasses. It is also quite costly. Reduce wet ingredients by 2 tbsp. Caution: Fructose

**Xylitol:**

Glycemic Index 8.

A natural sweetener that occurs in fruits, berries, and some vegetables, but is made primarily from birch bark. Xylitol is safe for use by diabetics, and is thought to help prevent tooth decay. Health food stores carry xylitol in crystalline form.

**Agave Nectar: ¾ cup =1 cup sugar and cut back on liquid ingredients ¼ to 1/3 cup**

Nutritionally agave has small amounts of calcium, iron, potassium and magnesium, Calories 16/tsp ( Sugar 16/tsp), Glycemic Index 11

Extracted from the agave plant, this nectar is low on the glycemic index, and **1.4 to 1.6 times sweeter than sugar.**

It is also not as thick as honey, therefore resulting in a slightly drier product. Available as a fluid in a light, amber, dark (more caramel and minerals) and raw varieties. Regular agave nectar is dark brown and thick like maple syrup. Raw agave nectar is less sweet, a clear liquid, and thinner viscosity. When you use agave, reduce your wet ingredients by ¼ cup. If your batter seems particularly wet, try adding 1 tbsp of starch or coconut flour to absorb it. Dissolves quickly so great for herbal teas. Caution: Fructose

**Brown Rice Syrup: 1 1/3 cups = 1 cup sugar**

Glycemic Index 25

A very thick, golden coloured syrup. Has a slightly caramel taste with a slight rice-like aftertaste. Brown rice syrup is not as sweet as sugar. When baking, you'll need to reduce your wet ingredients by ¼ cup for every cup of Brown Rice Syrup you use.



### **Date Sugar: 2/3 cup = 1 cup brown sugar**

Glycemic Index 32

Made from finely ground dehydrated dates, it is not a sugar itself but works well as a solid substitute rather than a liquid substitute. Crumbly and textured, It does not melt or dissolve in hot drinks like other sugars, but lends a great taste to pie and cobbler toppings. It also absorbs moisture instead of adding it, you may wish to add 1-2 tbsp more of wet ingredients.

### **Coconut Sap: 1 cup = 1 cup brown sugar**

Glycemic Index 35

Coconut sap (not coconut sugar), is a soft, molasses-scented sugar. It feels, smells, and tastes remarkably like brown sugar but is only half the glycemic index. It's a great substitute in baking when you need a solid rather than liquid sugar replacement. Even though its so expensive, it's a really good one. A comparable product would be date sugar, and its half the price.

### **Coconut Sugar:**

Potassium, Magnesium, Zinc, Iron, B1, B2,B3, B6, sap-16 amino acids ( glutamine), Glycemic Index 35

Made from the sap of cut flower buds of coconuts, resembles cane sugar. Very healthy, coconut sugar contains sulfur, healthy micronutrients, potassium and magnesium. It is easiest to find in Asian countries, but may be available online. Forms: Crystal ,granule , block or liquid. Subtly sweet slight hint of caramel. It's a great substitute in baking when you need a solid rather than liquid sugar replacement. Expensive: Date Sugar comparable & half the price

### **Apple Juice**

Glycemic Index 40

### **Barley Malt:**

Glycemic Index 42

Has a flavored sweetness somewhere between dark molasses and honey. Barley malt works well in baking and making smoothies. The bonus in this natural sweetener is that it has several vitamins and minerals.

### **Honey: 1 /2 to ¾ cup = 1 cup sugar**

Antimicrobial agent & Antioxidant, Source of: vitamin B2, vitamin B6, iron and manganese . Glycemic Index: Honey 30-50 (vs Sugar 99)(1)

The original natural sweetener, this is made by bees from flower nectars. Honey comes in hundreds of types and colors. Flavors of honey depend on the kind of blossoms that the bees visited. You can get honey on the comb, as a liquid, as natural crystals, or as a whipped, spreadable mixture. Sweeter than sugar, and adds a lot of moisture to your recipe. For every 1 cup of honey, reduce your wet ingredients by ¼ cup. I tend to use this the most. Its the most cost effective, has a wonderful very subtle floral note it adds to baked goods, and its got enough sweetness for my palate.

### **Maple Syrup: $\frac{3}{4}$ cup = 1 cup sugar**

Excellent source of Manganese ( cofactor for energy production & antioxidant systems) & Good sources of Zinc ( immune function), Glycemic Index 54

Collected from the rising sap of sugar maple trees, which is boiled down to drive off the water and thicken the syrup. Maple syrup comes in several grades, from dark to light, and like molasses, contains a good amount of calcium. You can use this wonderful sweetener on pancakes and in baking. *Caution:* many syrups are labeled “maple flavor” but contain just a little real maple syrup, or flavoring. Maple syrup is more flavourful than sugar; however it is also less sweet. Reduce the liquid in your recipe by 2-4 tbsps when using maple syrup in baking. It has a thinner consistency than honey.

### **Molasses: $\frac{1}{2}$ to $\frac{3}{4}$ cup = 1 cup sugar**

Glycemic Index 55

There are two kinds of molasses, fancy molasses and cooking molasses. Fancy Molasses is sweeter. Molasses has more nutrients than sugar, and makes terrific short baking like cookies or tea loaves. Not as easy with fluffy products like cake. It often has sulphites in it for preservative- if you are sensitive check the label to make sure. Reduce wet ingredients by  $\frac{1}{4}$  cup.

### **Maltose:**

Made from the starch of sprouted grains and rice. The plant starches are cooked and fermented until they convert into sugar. You may find this sold as crystals or as syrup.

### **Molasses:**

Comes from crushed and squeezed cane, which yields a thin, yellowish juice. The cane juice is boiled down and reduced to unsulphured molasses or the aptly-named blackstrap molasses. Dark molasses, especially blackstrap, has a distinctive buttery flavor and is loaded with calcium, iron, and potassium.

### **Rice Syrup:**

Also called brown rice syrup, it is made from brown rice starch that has been converted into maltose. Milder than most honey, rice syrup can be in cooking, drinks, and as a spread on breads.

### **Sorghum Syrup:**

Similar to molasses, but squeezed from sorghum cane. Sorghum juice is boiled down to evaporate most of the water content, until it becomes syrup. Because sorghum cane is pest-resistant, it needs little pesticides, making it nearly organic, and very safe to consume.

### **Turbinado Sugar:**

Brown crystals, often called raw sugar, this is partially processed sugar that contains some molasses. Turbinado sugar is not bleached or refined to the extent that white table sugar is processed, and has fewer calories. You can find this kind of sugar in crystals that are a bit larger than white sugar.