SWEETS

********** Nature's perfect drink

Well... believe it or not but there is always mother-nature's truly PERFECT drink for carbon-based critters... called WATER:-) Over half of Americans are obese because they consume to much milk, dairy, junk foods, sodas... loaded with nasty stuff like the formaldehyde from the breakdown of aspartame getting (which gets stored in the fat adding to the problems), hormones, herbicides, pesticides, PCB's, dioxins and more.. I gained 60 formaldehyde-laced pounds over 15 years... that 18 months AFTER dumping aspartame proved I would have a problem with it for the rest of my life. Whenever I attempt to lose weight (or get sick and lose weight) too fast that formaldehyde gets released back into my system and I experience erratic blood pressure and heart beat problems for as long as a month and a half (depending upon how much weight I lost).

Overview of sweetening agents courtesy of Mark Gold (www.holisticmed.com) and Dave Rietz (www.dorway.com). For Mr. Golds 100% version see http://www.holisticmed.com/sweet/sweet.txt

Sweeteners

********** ACCEPTABLE

GLYCEMICALLY ACCEPTABLE NATURAL SUGARS and SWEETENERS

VERY LOW GLYCEMIC RESPONSE

Fructose
Natural fruit sugar. About 1 1/2 times sweeter than sugar.

http://www.sweetnhealthy.com Low glycemic Natural fruit sugar. 10 times sweeter than sugar.

Stevia is an herb that is not recognized as a legal sweetener in the U.S. (as of 5/98). Stevia may be legally sold as a "dietary supplement" in the U.S. One serving contains -0- calories. One serving of Stevia will not elevate blood glucose, but certain Stevia products contain high glycemic maltodextrins. The Stevita Stevia company adds maltodextrins to Stevita Spoonable Stevia and Stevia packets. Stevita Stevia Powdered Crystals and Liquid Stevia do not contain maltodextrins. (see www.dorway.com/stevia.html for more info/sources)

Low Glycemic Fruit Sweeteners
Natural fruit sugar. Sweetness depends on specific product, usually 1-2
times sweeter than sugar

********** NATURALLY OCCURRING

NATURALLY OCCURRING SUGAR ALCOHOLS

THE GLYCEMIC RESPONSE OF SUGAR ALCOHOLS

Mannitol

Natural sweetener found in asparagus, pineapples, olives, and seaweed. Commercially synthesized from glucose. Classified as a sugar alcohol that causes less of a rise in blood sugar than do sucrose or glucose. Does not raise blood sugar rapidly. Has half the calories of glucose. 70% as sweet as sucrose. Mannitol's poor absorption by the intestine results in osmotic diarrhea. And a laxative effect at doses of 10 to 20 g daily. Doses of 10 to 20 g daily can worsen kidney disease. May increase urination.

Sorbitol

Also called hexitol. Naturally occurring sugar alcohol. 60% as sweet as sucrose. Commercially produced from glucose. Contains 4 calories per gram and is burned completely to carbon dioxide. Does not form glucose in the body. In diabetics: If diabetes is well controlled, sorbitol causes small postmeal rise in blood glucose. Large doses (50 g) can cause diarrhea. Sorbitol formation in cells occurs as a side effect of Diabetes Mellitus. Sorbitol cannot

leak out of cells and can gradually accumulate, leading to tissue damage and osmotic imbalances.

Xylitol

Naturally occurring sugar alcohol made from bark sugar (zylose). Derivative of pentose that is as sweet as sucrose. Found in fruits and vegetables. Commercial source is birch bark. Has little effect on blood sugar; causes !less of a rise in blood sugar than glucose or sucrose. Can cause diarrhea. Animals consuming xylitol for long periods can develop bladder and adrenal tumors.

********** UNACCEPTABLE

GLYCEMICALLY UNACCEPTABLE SUGARS and SWEETENERS

SUCROSE (table sugar)

Sucrose is the most common dietary sugar and sweetener. Chemically classified as a disaccharide. Sucrose is a simple carbohydrate made up of the simple sugars glucose and fructose. Obtained commercially from sugar beets and sugar cane.

TYPICAL LEVELS OF SUCROSE IN COMMON FOODS:

One cup of sugar-coated cereal contains 8 teaspoons
One 12-oz. Cola drink contains 8-10 teaspoons
One chocolate cupcake contains 14 teaspoons
One piece apple pie contains 15 teaspoons
2 oz. milk chocolate contains 8 teaspoons

SUCROSE CAUSES REACTIVE HYPOGLYCEMIA

Sucrose (table sugar) causes reactive hypoglycemia, meaning it elevates blood glucose and then sends it plummeting down. Following ingestion of 60 grams of sucrose, plasma glucose (PG, mg/dl) levels were monitored in diabetic and non-diabetic test subjects. Fasting PG was 97. At 25 minutes, PG was 139, at 60 minutes 79, at 90 minutes 81, at 120 minutes 80 and at 240 minutes 78. Compared to a low glycemic fruit sugar (Trutina Dulcem), sucrose was a roller coaster ride for blood sugar. Sucrose elevated PG by 40 points at the 25 minute mark as compared to the low glycemic fruit sugar. Sucrose caused PG to rise by 42 points, then drop by 60 points, then rise by 2 points, then drop by 3 points. The Low glycemic fruit sugar only raised or lowered PG by 7 points during the entire 240 minute period. For the first 60 minutes, PG was not raised at all by the low glycemic fruit sugar (Trutina Dulcem).

Sucrose has a somewhat lower glycemic response than most of the sugars listed below, but a much higher glycemic response than those sugars/sweeteners listed in the Very Low Glycemic Response list of natural sugars. The glycemic response of sucrose may be lowered by ingesting sucrose with foods and drinks containing protein, as protein will lower the glycemic response.

HIGH GLYCEMIC NUTRITIVE SUGARS

Honey
Barley malt
Date sugar
Sucrose, sugar, table sugar (99.9% pure sucrose)
Brown sugar (contains molasses)
Raw sugar (96% sucrose, 4% molasses)
Turbinado sugar (95% sucrose, 5% molasses)
Invert sugar (product of hydrolysis of sucrose containing levulose and glucose)
Caramelized sugar; prepared by heating sucrose until it browns)
Corn syrup
High fructose corn syrup (not the same as fructose; prepared from corn syrup/glucose)
Glucose
Dextrose
Maltose

Molasses
Maple syrup/maple sugar (refined carbohydrate with little nutrient content)
Maltodextrins
Not technically considered a sugar, they act like sugar in the body. Maltodextrins are a very high glycemic nutritive saccharide polymer frequently added to sweetener products.

Glucose Polymers (same glycemic response as maltodextrins)

Sucanat

Organic, evaporated cane juice; lower than sugar, but still too high Gl to meet the requirements of these guidelines.

ARTIFICIAL, NON-NUTRITIVE and OTHER SWEETENERS

THE GLYCEMIC RESPONSE OF SUGAR ALCOHOLS

Nutritionists have mixed feelings concerning artificial or non-nutritive sweeteners. Only time will reveal the long-term effects of these sweeteners on humans. We are not advocating the use of synthetic and/or sugar substitutes. We are simply stating their glycemic response in the human body and not their long-term safety. The reader can use his/her own wise judgment as to the safety of non-nutritive sweeteners. Given that, we can review the glycemic response of these sweeteners.

We have discussed the effect of natural sugars, sucrose and fruit sugars, on blood sugar and overall health. Natural sugars are considered caloric or "nutritive" and non-natural or synthetic sweeteners are generally considered "non-nutritive." The non-nutritive sweeteners are usually low calorie or calorie-free. Most non-nutritive sweeteners are neutral in their glycemic impact because they are neither sugars nor carbohydrates. They do not generally elicit a glycemic response unless they are combined with a nutritive sugar/sweetener or carbohydrate.

It is important to note that certain non-nutritive sweeteners are mixed with high glycemic ingredients when they are packaged. Some of the non-nutritive sweeteners contain added nutritive sugars/sweeteners and/or carbohydrates and some do not. The addition of high glycemic ingredients to non-nutritive sweeteners ranges from less than one gram to high-grams, which influences the glycemic impact. In packets, a small amount, less than 1 gram of carbohydrate or sugars is used. Less than one gram of dextrose, maltodextrins, glucose polymers, or other high glycemic carbohydrate/sugars is not likely to disrupt blood sugar, but multiple servings or uses during a 24-hour period can affect fat-storage and possibly blood sugar and insulin levels.

For example, Equal, in individual packets, contains dextrose with maltodextrins. Both dextrose and maltodextrins are high glycemic fillers. The Ingredients panel states: Dextrose with maltodextrins, aspartame (NutraSweet Brand), One packet contains 1 gram of total product, so there cannot be more than 1 gram of dextrose and maltodextrins per packet. It is a small amount of high glycemic ingredients, but that can add up depending on the amount of packets one uses on a regular basis. Sweet N' Low also contains high glycemic dextrose as its main ingredient in its packeted sweetener.

ARTIFICIAL, NON-NUTRITIVE AND OTHER SWEETENERS

NutrtaSweet (and the new "Neotame")

Aspartame. 200 times sweeter than sucrose. Contains two amino acids; aspartic acid and phenylalanine. Technically a caloric sweetener, few aspartame calories are used per serving. Non-nutritive sweetener. Does not elicit a glycemic response. Patent expired 1992. One can of diet soda typically contains 180-200 mg of aspartame. People with Phenylketonuria cannot take aspartame. All users are affected by the many components/breakdown components of aspartame.

Equal

Contrary to popular belief, NutraSweet is not the same thing as Equal. NutraSweet is a brand name for aspartame, and is an ingredient in Equal. Equal is a trademark of the NutraSweet company. The main ingredient in Equal is not aspartame but "dextrose with maltodextrin." Maltodextrins and dextrose are not desirable substances. All users are affected by the many components/breakdown components of aspartame.

(Note... the author of the above is very misinformed. This, per the Nutrasweet company:

From: benevia.equal@monsanto.com
Date: Fri, 21 Apr 2000 08:45:17 -0500
Dear David,

Thanks for writing!

NutraSweet brand aspartame is the sweetening ingredient found in Equal. Approximately one gram of the carbohydrate bulking agent, dextrose with maltodextrin, is added for consumer usability.

Team Equal
----------)

Sweet Thing, Joe Sweet, Nutrataste

More products containing aspartame. Sweet Thing also contains nutritive sugars/carbohydrates. Ingredients: Dextrose, aspartame, maltodextrin. Dextrose and maltodextrins are not desirable substances. All users are affected by the many components/breakdown components of aspartame.

Sweet 'N Low (Sodium Saccharin)

Granulated sugar substitute. A saccharin product. Contains nutritive dextrose and calcium saccharin. Dextrose is listed on file Unacceptable sweetener's list. (cleared March 2000 of the "cancer" issue)

Saccharin

One of the oldest approved artificial sweeteners (available for over 100 years). Not metabolized in humans and contains no calories. 300-700 times sweeter than sucrose. Neutral glycemic response. Large doses linked to bladder cancer in animals. The U.S. FDA proposed banning saccharin in 1977 as a potential carcinogen, but Congress voted to exempt it from the federal law that prohibits the sale of cancer-causing substances. Warning label states "saccharin has been determined to cause cancer in laboratory animals." The Canadians completed a 24 year study on saccharine and advised the US FDA that large doses of sodium saccharine fed to MALE rats for an extended period of time MIGHT cause bladder cancer. However, this does not translate to being harmful to humans and they suggested the "rat" warning be removed. The FDA declined to react. UPDATE: During March, 2000, the FDA seems to have had a twinge of honesty... and they "delisted" saccharine from the cancer warning requirement.

Cyclamate

The first approved artificial sweetener. Banned from being sold in the U.S.

Sunette and Sweet-One

Acesulfame K. (Acesulfame potassium). Sweetener. Not metabolized, non-caloric, no glycemic impact. Some studies suggest that large doses raise blood cholesterol levels in diabetic laboratory animals mid increase the number of lung and mammary tumors in other animals.

Sucralose (Splenda)

Chemically modified chlorinated sugar (sucrose) that cannot be digested. 600 times sweeter than sucrose. Sucralose seems to impair the thymus gland and immune system of experimental animals.* Long-term health effects are being studied.

****

For more information on the "glycemic index" (How quickly do foods raise your blood sugar?) ... please visit:

http://www.mendosa.com/gi.htm

For books on this subject... http://www.anndeweesallen.com/newgly.htm or below:

http://www.glycemicfoodlist.com/orderform.htm

The Diabetic's Guide to Insulin-Stimulating Foods
at $12.95 ea + $3.50 S&H
(Contains the GRI list of 800 foods)
Softcover
Published: June 2000

The Complete Guide to Fat-Storing Carbohydrates
at $13.95 ea + $3.50 S&H
(Contains the GRI list of 800 foods)
Softcover
Published: June 2000

GRI's Low Glycemic Food Plans and Recipes
at $13.95 ea + $3.50 S&H
Softcover
Published: June 2000