

Rationale For Sweet Sensations™

The yearning for sweetness is virtually a universal taste preference in humans. Although in our Western world of overabundance we have come to think that the sweet tooth is to be denied and sweet foods are looked upon almost as food perversions, this is not the case in the wild, pre-industrialized environment. There is a valid place for sweets in our nutritional picture.

SWEET
SENSATIONS™

W Y S O N G

Sweet Sensations™ is an all natural nutritional booster and sweetener. When used in place of fractionated, nutrient-depleted sugars, Sweet Sensations provides the minerals, vitamins, enzymes and probiotic cultures found in whole foods. Thus, Sweet Sensations converts today's devitalized, over processed foods into real foods of exceptional nutritional value.

INGREDIENTS:

Whole Cane Sugar, Barley Malt, Maple Powder, Xylitol, Seaweed Calcium, Banana Crystals, Prebiotics (including Inulin), Nutritional Yeast, Probiotics (including *Lactobacillus acidophilus*, *Lactobacillus bifidus*, *Lactobacillus plantarum* and *Enterococcus faecium*), Enzymes.

DIRECTIONS:

Use anywhere you normally use other sweeteners: beverages, jams, baked goods, desserts, cereals, spreads and more. 1 tsp. Sweet Sensations™ equals roughly 1 tsp. table sugar. Sweeten according to individual taste. Shake well before each use to homogenize individual components.



In the Stone Age it was adaptive to pick the sweetest fruit available. What happens when this adaptation is moved to a world full of cotton candy and chocolate bars? Many of us will opt for the modern delicacies over the most common natural source of sweet in the archetypal human diet, fruits. This tendency exemplifies "supernormal stimuli." For example, if an egg and a tennis ball are rolled out of a goose's nest, the mother will more often choose to return the ball to the nest rather than her own egg. To her, the tennis ball looks more egg-like than her egg. The next time you find yourself craving banana-crème pie over a banana, remember the goose that incubated a tennis ball.

We are genetically programmed to seek and enjoy sweet tasting foods because they represent energy to fuel our metabolism. Our bodies don't depend on us to reason this out, they draw us to sugars with powerful biochemical signals. Sweets can trigger endorphins in the brain, which are addictive pleasure-producing chemicals like those brought on by heroin, for example. Further, sweet versus bitter is often a means of differentiating food from poison.

Although we may attempt to avoid sweets, our bodies have an obligatory requirement for sugars, specifically glucose. It is a ubiquitous biological fuel. The brain is a particular glutton in this regard, requiring on a daily basis 120 grams of the 160 grams of glucose needed by the entire body. The depression and irritability that result from a hypoglycemic (low blood sugar) state are in part a result of the brain not receiving adequate glucose fuel.

Glucose is derived from simple sugars and complex carbohydrates in the diet. If we don't consume it, our bodies synthesize it through a non-carbohydrate source via gluconeogenesis, consequently utilizing other materials such as pyruvate, amino acids, protein, glycerol and lactate. Thus a sugar supply is assured, even at the expense of our muscles. Humans in the wild seek and prefer foods tasting sweet. Such foods mean concentrated energy and our genetic mandate to survive has not left it to chance that we receive these fuels.

Young children have a particular fondness for sweet. This is also not by accident. The energy demands of the young are far in excess of those of an adult, and thus sufficient fuel is

much more critical. This is likely the reason children prefer fruits, cookies and cereals as opposed to bland or spicy foods. If they were to fill themselves with lettuce instead of apples and bananas, their energy requirements might not be met.

If sweetness is not only desirable but also essential, why has it developed the ugly reputation it has? It is the form that sweetness has taken, as a result of it being extracted from foods and otherwise processed, which creates the potential danger. A major factor affecting sweetener quality is the component sugar type, i.e., presence of simple sugars (monosaccharides) vs. complex carbohydrates and polysaccharides containing a range of fast, medium and slow absorbing nutrients. White table sugar, which is stripped of all vitamins, minerals, fiber, amino acids and trace elements during the refining process, is a classic example of a simple sugar. At 99.9% pure sucrose, it is one of the purest chemicals manufactured.

Frequent high doses of concentrated sugar put a strain on the insulin-producing cells of the pancreas, which are responsible for the stimulation of sugar uptake, perhaps eventually disabling them and interfering with their capacity to smoothly regulate blood sugar levels. Such disorders as hypoglycemia and eventually even diabetes may result. High levels of blood insulin (hyperinsulinemia) stimulated by a constant glut of refined sugars has even been linked to cardiovascular and other degenerative conditions. A tummy constantly full of sweets also converts to body fat and spares the existing body fat from ever being used for energy needs. The result is the modern epidemic of obesity.

Fiber as found in natural sweet foods helps slow the release of sugar from the digestive tract into the blood stream, thus helping to prevent peaks and valleys in

blood sugar levels while reducing undue stress on the pancreas (refer to Wysong Panzyme monograph).

Thus the more reduced, refined and concentrated the sweetener, the more erratic its effect on the blood sugar level. This owes to the high glycemic index of refined carbohydrates, as research now shows that, it's not the amount but the type of carbohydrate that leads to obesity. Complex carbohydrates, like those found in Sweet Sensations™ produce a smoother response in blood sugar. The more complex the carbohydrate, i.e. the longer the sugar chains found in the carbohydrate, the longer it will take for sugar to be released from the carbohydrate chains and absorbed.

Processed foods have been stripped from their natural context and combined often under high temperatures and other vigorous conditions that can result in a variety of unnatural chemical combinations, which may in fact be toxic. An example is the Maillard reaction between sugars in foods and certain amino acids. This reaction results in toxic products as well as making unavailable certain key nutrients such as the amino acid lysine. Minerals and vitamins, on the other hand, are often cofactors in enzyme systems that are necessary for the body to properly metabolize and utilize the sugar. Feeding the body pure sugar without these accessory nutrients is like choking an engine. Too much fuel flows to the carburetor, but not enough air is present to permit appropriate combustion. The engine stalls, sputters and sputts. Obesity and other degenerative diseases are the sputtering and sputting resulting from inappropriate modern nutritional fuel.

Today, sucrose, or common table sugar, represents 20 to 25% of the daily caloric intake of the average American. Worse, such processed sweeteners have been proven to greatly stimulate the appetite. If refined sugar consumption becomes habitual, nutritional elements

for the metabolic process must come from eating additional foods, adding calories, or be pulled from body tissues leading to deficiencies. In one study, participants consumed 200 more calories after ingesting sucrose than those who were given Sweet Sensations™ ingredients. Consider that this adds up to more than 15 pounds gained yearly due to sucrose alone.

A pharmaceutical-like approach to the problems associated with sugar consumption has been embraced by many manufacturers with the introduction of artificial sweeteners. The number of Americans who consume sugar-free, artificially sweetened products has grown from less than 70 million in 1987 to more than 160 million in 2000. The dangers from consuming such products are only now beginning to be realized. Saccharin, an O-toluene sulfonamide derivative, has been on the market for over forty years, and among other things, has been known to cause dermatologic reactions. Cross-sensitivity with sulfonamides has been demonstrated; therefore, children with "sulfa" allergy are particularly at risk. Studies have also linked saccharin to the development of bladder cancer. Until 2001 the FDA required an appropriate warning on the label but it has since been removed! Aspartame, an artificial sweetener distributed under different trade names - NutraSweet™ or Equal™, is a dipeptide of aspartic acid and a methyl ester of phenylalanine. Aspartame is metabolized into its constituent amino acids along with a small amount of methanol. Methanol is metabolized to formaldehyde and formic acid. Formaldehyde is classified by the World Health Organization as a probable human carcinogen and is the major source of controversy over aspartame's safety. People with phenylketonuria most certainly must avoid Aspartame since they cannot metabolize phenylalanine. Acesulfame Potassium (aka A.C.K.) is a derivative of acetoacetic acid. A.C.K. stimulates

insulin secretion in a dose dependent fashion thereby possibly aggravating reactive hypoglycemia (low blood sugar attacks). A.C.K. apparently produced lung tumors, breast tumors, rare types of tumors of other organs (such as the thymus gland), several forms of leukemia and chronic respiratory disease in several rodent studies, even when less than maximum doses were given. Splenda™, also known as Sucralose, is the latest entry in the artificial sweetener category. It is a chlorinated sucrose derivative synthesized by replacing 3 hydroxyl groups of sucrose with 3 chlorine ones. Pre-approval research has shown that sucralose causes shrunken thymus glands and enlarged liver and kidneys. Sucralose also breaks down into small amounts of 1,6-dichlorofructose, a chemical that has not been adequately tested in humans.

At the same time that more people are drinking and eating foods sweetened with artificially spiked low-calorie sweeteners, they're not getting any thinner. In contrast, more people are becoming overweight or obese directly because of artificial sweeteners.

The body inherently "counts" calories based on the natural sweetness of a food. This innate mechanism helps it to control consumption of natural sweet foods. Since artificial sweeteners lack the "sweet" taste, ingestive behavioral studies suggest that they disrupt the body's natural ability to "count" calories based on the foods' sweetness, thereby leading to overeating and obesity. Additionally, many people rationalize eating more high calorie foods since they have sacrificed those foods containing the "low calorie" label. Artificially sweetening foods solves no problems for consumers but creates plenty of them.

Wysong Sweet Sensations is an all-natural nutritional booster and sweetener. When used in place of fractionated, nutrient-depleted table sugars, Sweet

Sensations provides the minerals, vitamins, fiber, enzymes and probiotic cultures found in whole foods. Thus, Sweet Sensations is an excellent alternative to today's devitalized, over-processed, and fractionated foods that are stripped of nutritional value.

Primary Sweetening Components in Sweet Sensations™

Natural Cane Sugar is sugar in its most natural form. Sugar is extracted by evaporation of the freshly squeezed juice, thereby preserving the two major components that typical sugar processing separates – molasses and sugar. Since most of the molasses is retained, it is rich in calcium, iron, magnesium, phosphorus, potassium, trace elements (chromium, copper, zinc, and other) and a host of vitamins.

Barley Malt is processed from sprouted grain the most nutritious form grain can take – and retains about 40% of its complex carbohydrates. The remaining sugar composition is 42% maltose, 6% glucose, and about 1% fructose. Because of this, absorption proceeds over a longer period of time, and the roller coaster effect of high then low energy is minimized.

Maple Powder is another natural sugar source that retains all the vitamins and minerals that are present in the sap of the sugar maple tree.

Xylitol is a naturally occurring substance that can be found in plants, fruits, and vegetables. In fact, even the human body produces this during regular metabolism. Being a sugar-alcohol, it yields only 2.4 cal/g, as opposed to the 4 cal/g of table sugar or any other carbohydrate for that matter. Due to this, not only does it impart the same level of sweetness as sugar does, but its metabolism is insulin-free. Further, and most importantly, xylitol has been proven to be an effective anti-cariogenic agent that inhibits the growth of *S. mutans*, the primary

bacterium associated with dental caries. The sweetness and pleasant cooling effect of xylitol creates an increase in salivary flow. Saliva helps with cleaning and protecting teeth from decay and plaque formation.

Other Components

Besides the primary sweetening components, Sweet Sensations contains probiotics, prebiotics (including Inulin), digestive enzymes, nutritional yeast, minerals and desiccated sea plankton. These natural ingredients further enhance nutritional value, improve assimilation of nutrients and stimulate digestive health.

Balance

A varied diet of fresh natural foods is the ideal if health is the goal. Although sweetness is an enjoyable part of meals and snacks, caution must be used. Anything in excess-particularly if it is a purified fraction or synthetic-is potentially toxic. Modern refined sugars consumed in excess are an important contributor to the decline in health of modern populations. Sweet Sensations provides an excellent nutrition-rich alternative.

These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.

SWEET SENSATIONS™ SCIENTIFIC REFERENCES

Blaylock, R.L. (1994). Excitoxins: The Taste That Kills. Health Press, Santa Fe, NM.

Davidson, T. L. & S.E., Swithers (2004). A Pavlovian approach to the problem of obesity. International Journal of Obesity; 28, 933-935.

Green, R.M. (1982). Sweetness and the prevention of dental caries. Dent Update; 9(3): 135-142.

Isokangas, et al. (1998). Xylitol chewing gum in caries prevention: a field study in children. J Am Dent Assoc; Aug, 117(2): 315-20.

Ma, et al., (2005). Association between Dietary Carbohydrates and Body Weight. Am J Epidemiology; 161(4): 359-367.

University of California at Berkeley Wellness Letter; (2003). "Be Choosy About Carbs." <http://wellnessletter.com/html/fw/fwNut03Carbs.html>

Wurtman & Walker. (1987). Dietary Phenylalanine and Brain Function. Proceedings of the First International Meeting on Dietary Phenylalanine and Brain Function. Washington, D.C., May 8, 1987.

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