



Sweet Talk and Cutting Through the Hype

Editor's Note: In several of my previous SJ columns, we have looked at sugar and especially at artificial sweeteners. Beginning in this month's column, I will highlight some of the information published in Dr. Joseph Mercola's 2006 book "Sweet Deception." Dr. Mercola is an osteopathic physician and surgeon who is board-certified by the American College Osteopathic General Practitioners in family medicine. With the deluge of advertisement for artificial sweeteners, factual scientific information on health effects or safety of use is difficult to discern or even find comprehensive studies. Dr. Mercola's intensive research into sweeteners coupled with a good understanding of chemistry and human metabolism lends credibility to his advice and conclusions.

Our Craving for Sugar—With 115 million tons of sugar currently being produced each year, it seems safe to say that nearly the entire world has an insatiable appetite for it. Dr. Daniel Kirschenbaum, a weight loss expert, offers two reasons why we are born with such a powerful sweet tooth: when you are hungry, sugar provides the quickest antidote; when people or other animals are starving, they consistently show heightened preferences for very sweet foods. This again, shows your body's orientation to satisfy extreme hunger and food deprivation quickly and effectively with sugar. Our bodies are programmed to eat large amounts of sugar or sweet foods whenever they are available. This made sense for our hunter-gatherer ancestors: if they found something that tasted sweet, their bodies wanted to encourage them to eat large quantities of it.

The innate desire for sweets has been observed in primitive societies in Australia and South Africa where members undergo great efforts to seek raw honey and consume high amounts whenever they can find it. However, "high amounts" for them means about 4 pounds per person per year, unlike the typical American who at the turn of this last century was eating an estimated 158 pounds of sugar per year. The addiction is very real and research indicates that sugar has the ability to increase opioids in the brain that produce pleasure. This is considered a major part of the physiology that fuels our craving for sugar and is why sugar consumption rates are climbing each year. But our natural craving for sugar is not the only factor in this. Another cause is the effective marketing and advertising of sugar laden foods. Our unlimited access to sugar, combined with our inherent desire for sweet foods and barrage of advertising, has led many of us to consume as much sugar in one week as our ancestors did in an entire year.

The Obesity Epidemic—Over consumption has according to the National Health and Nutrition Examination Survey 1992-2002, an estimated 65% of U.S. adults are overweight, with 30% of this group classified as obese. Western nations, according to Dr. Mercola, are in the midst of the worst obesity epidemic to ever hit the planet.

Artificial Sweeteners Are Not the Answer—Americans now consume over twenty pounds of artificial sweeteners per person per year, but it hasn't solved the problem: the rates of weight gain and diabetes and all the other chronic diseases still continue to skyrocket. Not only are artificial sweeteners not providing a solution for the obesity epidemic, but these chemicals may be linked to a whole new range of diseases far more harmful than the love handles they were designed to cure. And, just as sugar was once long considered healthy and safe, artificial sweeteners are currently widely regarded as being completely safe and without side effects. For if they caused harm, why would the FDA allow them to be on the market? We will take a detailed look at artificial sweeteners and the operation of the FDA through the eyes of Dr. Mercola.

What Are Artificial Sweeteners Anyway?— "Artificial" means that the sweetener is not found in nature, but is instead a man-made chemical compound. Artificial sweeteners do not contain vitamins and minerals, and are very low in carbohydrates and calories. They are appealing because they provide a sweet taste without the calories (as opposed to sugar which contains 15 calories per teaspoon). Currently, the list of artificial sweeteners includes the following (in order of appearance): Saccharin, Cyclamate, Aspartame, Alitame, Sucralose, Acesulfame-K and Neotame.

The Artificial Sweetener Promised Land—The history of the sweeteners as described in Mercola's book all follow, with minor variations, a similar and disturbing pattern: A scientist accidentally discovers that a chemical he is experimenting with tastes sweet. A manufacturer buys the patented chemical and convinces the FDA to approve it, often without adequate research or long term studies. Then the sweetener enters the marketplace with a great deal of fanfare, and the makers of diet products scramble to add the new sweetener to their products to catch the wave of media exposure. The public eagerly embraces the new sweetener, and consumption increases.

Over the years, complaints to the FDA start to accumulate, as some people become ill from its long term use. The side effects that people experience spur an investigation, and researchers examine previous studies or conduct new ones to uncover the health risks that may have been unidentified, suppressed or ignored. The sweetener may or may not be removed from the market, but it is of little consequence because suddenly a new sweetener is introduced to replace it, and everyone flecks to the new "artificial sweetener promised land," hoping there won't be any harmful consequences with the new one—the current stage in the life of Splenda, the blockbuster new artificial sweetener with millions of users. But because there are no long-term studies, we will have to wait for results of its use over an extended period of time.

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For the 2008 crop the average values for several of the key components are as follows: Pol extraction % pol in cane, 93.43; Cane % pol, 12.85; Cane % fiber, 14.14; Imbibition % cane, 28.00 (rule of thumb - 200% on fiber); Bagasse % pol, 2.64; Filter cake (Lb/ton cane), 127.9; Filter cake % pol, 3.26; Syrup purity, 86.49; Molasses % purity, 33.87; Boiling hours efficiency, 96.14.

Although we have made great strides in our 213-year history, the Louisiana and domestic sugar industries still must face many obstacles in the future. However, the industries must continue to look at alternative uses for sugar and bagasse to remain competitive to include vertical integration (from field to consumption), cogeneration, bagasse pelletizing, cellulosic ethanol, specialty chemical, etc. I encourage each of you to take advantage of the program, talk with your colleagues and take whatever knowledge that you pull together back home to help you in your fields and/or factories.

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