

Features

December 1, 2007

By Rebecca Cohen - Chronicle Columnist

Check the label on the container of your favorite soft drink and you're likely to find high-fructose corn syrup listed as a primary ingredient after water. High-fructose corn syrup, a mixture of glucose and fructose, has become the sweetener of choice in the United States for soft drinks and many processed foods. It's incorporated into not only cookies and candies, but also numerous foods that one would not expect to contain sugar: hot dogs, bread crumbs, ketchup, cereals, breads, sauces and flavored yogurt, to name a few. In addition, some of the "energy" bars and "healthy" snacks are frequently sweetened with high-fructose corn syrup.

High-fructose corn syrup, a synthetic sweetener, was introduced in the 1970s by food companies that wanted to save money. It is profitable to sweeten food with this product because it is less expensive and much sweeter than sugar, and is easy to transport because of its liquid state. High-fructose corn syrup now represents more than 40 percent of the caloric sweeteners added to foods and beverages.

The Corn Refiners Association states that high-fructose corn syrup provides sweetness at a level equivalent to table sugar, helps foods such as bread and breakfast cereal to "brown" better when baked, and gives chewy cookies and snack bars their soft texture. The association also says high-fructose corn syrup protects freshness and actually inhibits microbial spoilage by reducing water activity and extends shelf life through superior moisture control. An interesting note I found while researching this topic came from Dr. Joseph Mercola (<http://www.mercola.com>) who states that, while the browning effect seems good, it is not. Fructose browns food seven times faster than glucose, resulting in a decrease in protein quality and a toxicity of protein in the body.

So why are people concerned about the addition of high-fructose corn syrup to food? According to The American Chemical Society, the American Diabetic Association, the American Dietetic Association and Dr. Alan Gaby, past president of the American Holistic Medical Association, among many others, the problem appears to be the fructose and the fact that it does not release or stimulate insulin.

Insulin is a hormone that helps our body metabolize our foods by pushing carbohydrates into our muscle cells to be used as energy, and it allows carbohydrates to be stored in our liver for later use. It also stimulates production of another hormone, leptin, which helps to regulate our storage of body fat and increases our metabolism when needed. These two hormones keep our body fat regulated and tell us when we are full and should stop eating. Consequently, if these two hormones are not available to give a sense of fullness, you keep eating and increase your calorie consumption. Smart, huh? If there's no leptin, you don't stop eating the manufacturer's food!

Professor George Bray, one of the most eminent and highly respected figures in the field of obesity science, spoke at the International Congress on Obesity in 2002 and said the rise in the use of high-fructose corn syrup in foods and particularly soft drinks has coincided with the increasing levels of obesity in the United States. He feels this is a serious message because rising levels of childhood obesity and type 2 diabetes will mean huge numbers of teenagers will be forced to undergo renal dialysis for kidney disease or will suffer blindness, heart disease and early death in their 30s because of their obesity-related diabetes. This sentiment also has been presented by the American Diabetic Association.

Finally, studies have found that people who consume very high levels of fructose have elevated triglyceride and LDL ("bad") cholesterol levels, and have more intra-abdominal fat than people who use drinks sweetened with glucose. The importance of this fact is that intra-abdominal fat, the kind that makes you look more like an apple than like a pear, is the most dangerous kind of fat to carry around. It puts you at greater risk for diabetes, heart disease and other diseases.

What can you do? First, as always, read those labels! If you find that high-fructose corn syrup is one of the first ingredients on the label, you may want to consider other foods that don't contain it. We need to pay attention to all sweeteners - including high-fructose corn syrup, sucrose and fruit juices - as these sugars often represent excess, empty calories. Choose sensibly to limit your intake of beverages and foods that are high in added sugars. Get most of your calories from whole grains, fruits and vegetables, low-fat or non-fat dairy products and lean meats or meat substitutes. Take care not to let soft drinks and sweets crowd out other foods you need to maintain health, such as low-fat milk or other good sources of calcium.