



The Devil's Candy

Food companies are adding an evil ingredient to their products that may turn your body into a fat-storing machine

By Susan M. Kleiner, PhD, RD | [From Men's Health Magazine](#)

May 26, 2003 -- During my first semester in graduate school, I took a course called food science, the study of ingredients in foods. It was 1980. "High-fructose corn syrup has recently been introduced into the food supply," my professor told us. "It's a very inexpensive sweetener and will likely replace sugar in most processed foods." I could tell she wasn't happy about that. She went on to explain that our understanding of how fructose works in the body was very limited, and we had no idea how it would affect the population.

Now we know.

High-fructose corn syrup is making America fat. How? By shutting off the switches that control appetite. It's more easily turned into fat than any other carbohydrate. And it's everywhere, from the obvious places like Coke and Mountain Dew to barbecue sauce and canned soup.

Consider this: In 1970, Americans ate about a half-pound of high-fructose corn syrup (HFCS) per person per year. By 1997, we were consuming up to 62? pounds each, according to a study published in the *American Journal of Clinical Nutrition*. That's 228 calories per person per day, and that figure is based on 6-year-old numbers; consumption has almost certainly risen since then. And over the same time period, the obesity rate has more than doubled.

HFCS is different from other sugars and sweeteners, which can make you fat indirectly, over time. HFCS makes you fat by the straightest possible metabolic path. Let's look at where this stuff comes from, what it does to your body, and--most important--how to get as much of it as possible out of your diet.

Fructose Can Make You Fat

The problem with HFCS is the fructose -- a sugar that occurs naturally in fruit and honey -- rather than the corn syrup. Corn syrup is primarily made up of a sugar called glucose, which can be burned up as a source of immediate energy, stored in your liver and muscles for use later, or, as a last resort, turned into fat. But corn syrup isn't as sweet as other sugars, which is why the food-processing industry fell head over heels in love with high-fructose corn syrup, a cheap and doubly sweet chemical derivative.

But what's good for Coca-Cola's profit margins isn't that great for your health. That's because your body doesn't necessarily use fructose as an immediate source of energy. "Fructose is more readily metabolized into fat," says Peter Havel, PhD, a nutrition researcher at the University of California at Davis. Havel is among a growing number of scientists who suspect that there's a connection between fructose and America's skyrocketing rates of obesity and diabetes.

We should mention that we aren't saying the small amounts of fructose you get through fruit or honey will make you fat. Fruit is packed with vitamins, minerals, and fiber, all of which are components of a healthy diet.

HFCS, though, delivers -- mostly through soft drinks -- amounts of fructose that are unprecedented in human history. "Soda consumption has doubled, from 25 to 50 gallons per person [per year] from 1975 to 2000," says Greg Critser, a journalist and author of *Fat Land*, which fingers fructose as one of the major culprits in the obesity epidemic.

Critser says that HFCS is about 20% cheaper than cane sugar. Both contain a combination of fructose and glucose, but the low cost of HFCS has made it easier for manufacturers to supersize their portions. "The serving size of sodas has almost doubled, from about 10 ounces to about 18 ounces" because of HFCS, Critser says.

None of which would be a huge problem if we simply ate less of everything else to compensate for the fact that we're consuming more fructose. But we don't; average Americans now eat about 200 more calories per day than we did in the '70s.

Fructose Messes With Your Hormones

Normally, when you eat a food that contains glucose or starch -- or any other carbohydrate -- your body releases insulin, a hormone that does a series of important jobs to regulate your body weight: First, it tries to push the carbs into your muscle cells to be used as energy and facilitates carb storage in the liver for later use. Then it suppresses your appetite -- telling your body, in effect, that you're full and it's time to stop eating. Finally, it stimulates production of another hormone, leptin.

Leptin is manufactured in your fat cells and acts as a nutrition traffic cop of sorts. It helps regulate storage of body fat and helps increase your metabolism when needed to keep your weight in check.

"Fructose doesn't stimulate insulin and therefore doesn't increase the production of leptin," says Havel. This is the most important part of the case against fructose in general and HFCS in particular: Without insulin and leptin, your appetite has no shutoff mechanism. You can drink a six-pack of Mountain Dew or eat a half-gallon of frozen yogurt, and your body will hardly acknowledge that you've consumed any calories at all. Eat the equivalent number of calories in the form of a Thanksgiving dinner and you feel stuffed.

A 2002 study in the *American Journal of Clinical Nutrition* looked at whether soda itself, or the high-fructose corn syrup in soda, was the problem. The study took two groups of overweight people and had one group drink regular soft drinks while the other drank diet soda for 10 weeks. The regular-soda group gained weight and increased their body fat -- not surprising, given that they consumed 28% more calories than normal while on the soda regimen. Worse, they also saw an increase in their blood pressures.

The diet-soda group, on the other hand, consumed fewer calories than they normally would, lost weight, reduced body fat, and lowered blood pressure.

So now the Diet Coke drinkers of the world have reason to celebrate.

How to Find Fructose and Avoid It

Soft drinks are the main vein of HFCS, but it's everywhere, even in hamburger buns.

Your first line of defense: Avoid regular soda. Next, read nutrition labels. Start with the ingredients. If a label says "sugar" or "cane sugar," the product contains sucrose, which is a 50-50 blend of fructose and glucose. That doesn't seem to be as much of a problem. If HFCS is

listed first or second, look at the chart that accompanies the ingredients to see how much sugar is in the food. If it's just a gram or two, don't sweat it. But if you see a food that has 8 or more grams of sugar, and HFCS is prominent on the list of ingredients, buy something else. Remember that your body can deal with a little of anything, but a lot of fructose is a one-way ticket to Fat City.

My professor was right when she said that messing with the food supply is a deal with the devil. The money the food industry saved by using a cheap but unstudied sweetener was deposited on your waistline, and it's time to close the fructose account.

Where the Fructose Is Hiding

Foods high in HFCS or fructose:

- Regular soft drinks
- Commercial candy (jelly beans and others)
- Apple juice (typically about 60% fructose)
- Pancake syrup
- Popsicles
- Frozen yogurt
- Fruit-flavored yogurt
- Ketchup
- Highly sweetened cereals
- Pasta sauce (especially Ragu)
- Canned soup

Replace with . . .

- Unsweetened sparkling water or diet soda
- Chocolate candy (check the label, though -- some chocolate candy bars may use HFCS as an ingredient)
- Unrefined 100% apple juice, grape juice, orange juice, or (here's a shocker) whole fruit
- Real maple syrup
- Frozen-fruit bars (always check the label; some brands may have added HFCS)
- Ice cream
- Artificially sweetened or sugar-sweetened yogurt
- Mustard
- Sugar-free or low-sugar cereals
- Sugar-free pasta sauce
- Organic, all-natural, or sugar-free soups (check the label--an HFCS-free soup won't list any sugar)