

# The whole truth about high-fructose corn syrup

By Kevin McCarthy, *Consumer Reports Health.Org*, October 28, 2008

Name: \_\_\_\_\_

This ad has been making waves lately. It is one of three commercials that the Corn Refiners Association debuted last month to "change the conversation about high-fructose corn syrup."

In the ad, one mother begins to lecture another about the dangers of high-fructose corn syrup in the "red juice" (as such products were always called in my house) that is being served at a children's party.



The second mother turns the tables and catches the other speechless about what exactly is wrong with the corn-derived sweetener, and finally delivers the Corn Refiners' message, "It's made from corn, doesn't have artificial ingredients, and like sugar, it's fine in moderation."

Let's take the Corn Refiners' points one by one:

**"It's made from corn."** True. High-fructose corn syrup is indeed made from corn. But you won't get the same beneficial nutrients in it that you would from eating an ear of corn. It's processed from corn starch; the glucose has been converted to fructose. Both glucose and fructose are sugars. Unlike table sugar, in which the sugars are chemically bonded, the sugars are blended in high-fructose corn syrup. The controversy behind high-fructose corn syrup is its effect on the body. Is it better for you than refined sugar? Is it worse? Has it contributed to the expanding waistline of human society? Is it linked to diabetes?

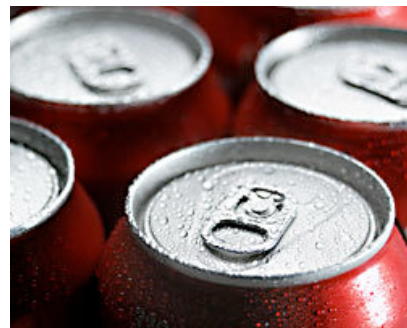
**"Doesn't have artificial ingredients."** Partly true. The claim about artificial ingredients is a tricky one, since high-fructose corn syrup is processed using artificial agents. The U.S. Food and Drug Administration (FDA) has stated that if the final product has come in contact with synthetic agent glutaraldehyde, then it cannot be called "natural," which they define as meaning no artificial or synthetic ingredients were added. But if the manufacturer uses the artificial agent in its production, and it does not come in contact with the corn starch, it can be considered a natural product. So it's possible that some high-fructose corn syrups may be able to claim "no artificial ingredients," according to the FDA, while others would not be permitted the phrase. It is distinctions like these that lead Consumers Union to consider the "natural" label not meaningful.

**"Like sugar, it's fine in moderation."** True. Most foods are fine in moderation. It's too much or too little that causes problems. However, some would probably argue that with high-fructose corn syrup in so many products, to truly enjoy it in moderation you'd probably be better off leaving the "red juice" on the shelf. Gram for gram, high-fructose corn syrup has the same calories as sugar; excess consumption of either is considered an unhealthy practice. But other properties of this additive are being studied, and these may be linked to diabetes and obesity.

## **What is high-fructose corn syrup, anyway?**

So what has happened to "the conversation about high-fructose corn syrup" in the first place that led its manufacturers to want to rehabilitate its reputation?

High-fructose corn syrup is a sweetener found in packaged products such as cookies, soda, salad dressing and sauces. You can find it in hundreds of foods in your supermarket and at restaurants. It's less expensive than refined sugar and is a stable preservative. Invented in the 1960s, high-fructose corn syrup came into the commercial spotlight as an alternative to sugar in the 1970s, when the cost of refined sugar soared. It has since become a fixture of packaged goods.



In 2004, researchers from the Louisiana State University and University of North Carolina published a paper that theorized that high-fructose corn syrup in beverages could play a role in the obesity epidemic. They looked at the correlation between the 1,000 percent increase in high-fructose corn syrup consumption between 1970 and 1990, and a correlating rise in obesity rates. Because of the way the body metabolizes fructose from beverages, the researchers argued, it may play a role in the obesity epidemic.

High-fructose corn syrup has become one of the 'boogeymen' of processed foods. The Corn Refiners Association is probably right in noting that it has no known special risk compared to table sugar. While it has been implicated in a rise of Type 2 diabetes, obesity, and other health problems, high-fructose corn syrup and white sugar are almost identical chemically; each is about half fructose and half glucose.

The association between high-fructose corn syrup and obesity may reflect that we consume so much of it. Nearly all sugars add empty calories to our diets. And because high-fructose corn syrup is the main sweetener in most soft drinks and a common one in many other foods (including breakfast cereals, salad dressings, cheese spreads, yogurts, jams, and peanut butter, among countless others), many people may just consume more of it than other sugars. But that doesn't mean that there's definitely no added risk from fructose in general. A new study of rats by researchers from the University of Florida suggests that a diet high in fructose may lead the body to develop a resistance to a protein called **leptin**, which helps control appetite. More research is needed to fully understand the relationship.



We do know that Americans can stand to cut back on sugar. According to the U.S. Department of Agriculture, the average American should consume no more than about 40 grams of added sugars each day – added sugars don't include those that occur naturally in fruit and other foods. But the average American consumed

more than three times that in the year 2000. People who want to limit their overall sugar intake would be wise to cut down on products that have added sugars, including high-fructose corn syrup, listed among the first several ingredients, which are listed by proportional weight on the label. But be aware, sugars can hide under a variety of names. Replacing soft drinks with water has been shown to reduce total calories consumed by kids.

#### ----- Questions -----

1. What are the three arguments that the Corn Refiners Association uses to support using high-fructose corn syrup?

A. \_\_\_\_\_ B. \_\_\_\_\_ C. \_\_\_\_\_

2. What is the FDA? \_\_\_\_\_

3. Why is it difficult to consume high-fructose corn syrup in moderate amounts?

4. What does the protein **leptin** do for the body? \_\_\_\_\_

5. In the year 2000, how many added grams of sugar did the average American consume each day? \_\_\_\_\_

6. How can you check to see if a food contains large amounts of high-fructose corn syrup?

