

**“Sticky Sweet: Corn syrup delivers overload of fructose,” by Nina Marinello,  
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Editor, TimesUnion  
Albany, New York

To the Editor:

I was a bit surprised by Nina Marinello’s blanket statement in a recent article (June 24) that “over-consumption of high-fructose corn syrup [HFCS] causes health problems.” Her statement is both obvious in the extreme — over-consumption of anything, including salt and water, can cause health problems — and insinuating of something ominous.

As a biochemist with over 25 years experience studying nutritive (caloric) sweeteners, let me assure your readers that there is absolutely no credible scientific evidence to indicate that HFCS is any more or less healthful than sugar or honey. None. Here’s why.

HFCS was developed as a liquid alternative to sugar. It has the same calories and composition — half glucose and half fructose — as sugar, honey, and many fruits and juices. In fact, once any of these enter the blood stream, the human body cannot tell where they came from: they all deliver glucose and fructose in the *same* ratios at the *same* concentrations within the *same* time frame to the *same* tissues.

The research Marinello cited in support of her statement is applicable to neither HFCS nor pure fructose because of the manner in which it was conducted. Near-toxic levels of sugars were fed to test subjects in order to generate metabolic abnormalities, and then claimed to be representative of the consequences of HFCS and fructose in the typical human diet. They are not.

Recent research by Melanson and colleagues at the University of Rhode Island reported in the journal *Nature* (2007) measured the effects of various sugars on factors known to be important in obesity. They found no difference between sugar and HFCS. Absolutely none. This makes sense since sugar and HFCS are nearly identical in composition.

While it’s true we’re consuming more total sugars today than 30 years ago, it’s equally true we’re consuming more of *everything*. It may surprise Marinello to learn that as a

percentage of total calories, the consumption of added sugars has gone down slightly in 30 years, while consumption of fats and cereal grains (think starch) have increased several percent (USDA figures).

Though theories on the cause of obesity abound, one stands profoundly above the rest: obesity occurs when energy intake exceeds energy expenditure over time. Whenever any caloric food or ingredient is over-consumed — and this includes fats, proteins and alcohol as well as carbohydrates — without compensating exercise, the excess is ultimately converted to fat, with obesity the eventual outcome. It's really that simple.

## References

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