Are stevia-sweetened sodas truly all-natural or even good for you?

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Coca-Cola recently announced that it would alter its Sprite recipe in the United Kingdom to include stevia, a natural nonnutritive sweetener, as an ingredient, and may similarly change the US Sprite recipe. This new Sprite, "instead of being added as a mid-calorie addition to the Sprite range, [it] will completely replace the current Sprite," according to the company. Though this Sprite is sure to be touted as "all natural" and "reduced-calorie," it will not be a sugar-free beverage—it will be made with both stevia and sugar, and the calorie count will be reduced only by 30 percent.

How big a deal is a 30 percent reduction in sugar? Not that big. A 20-ounce bottle of most sugary sodas contains about 16 teaspoons of sugar; reduce that by 30 percent and you still have about 11 teaspoons. The American Heart Association recommends that men consume no more than 9 teaspoons of added sugars a day, and that women consume no more than 6 teaspoons, so a 20-ounce bottle of the new Sprite would still send you past those limits one or two times over. Even so, reducing any amount of sugar in popular beverages is a step in the right direction. But is it a good thing to introduce stevia—or more stevia—into our foodstuffs, whether a manufacturer directly injects stevia into our beverages or we add it ourselves?

Stevia, or *stevia rebaudiana*, is a plant indigenous to South America whose leaves have been dried, crushed, and used to sweeten food and drink in South America for centuries, and for many decades in Japan. "Its active ingredient, stevioside, is available in purified powdered form," said food writer Harold McGee, who, in his book *On Food and Cooking* classifies stevia under intensive sweeteners. Such sweeteners, he said, "often have some flavor qualities that make them imperfect replacements for table sugar." I haven't tried pure stevia myself, but food writer Jeffrey Steingarten has, and he found chewing on stevia leaves to be a remarkable experience. "Initially, it tastes of nothing, sort of green and slightly bitter," he said. "Then, as you chew, your mouth is filled with the sweetest taste you've ever known, a pure, cool, piercing, disembodied sweetness, peaking in about 30 seconds and soon replaced by an unpleasant bitterness."

The US Food and Drug Administration (FDA) and regulators in Canada and the European Union have not been all that enthused about stevia either, though it has nothing to do with its bitterness. "In particular, the FDA has concerns about the whole-leaf or crude stevia on blood-sugar control, the kidneys, and the cardiovascular and reproductive systems," said Katherine Zeratsky, a registered dietitian at the Mayo Clinic. In 1991 the FDA banned the substance outright, but in 1994 it deemed stevia a dietary supplement under the new Dietary Supplement, Health, and Education Act (DSHEA). As a dietary supplement, stevia could now be imported and sold legally as long as it was labeled as a dietary supplement, was not represented as a conventional food, and was not marketed with false or misleading claims. Since supplements are considered foods, not drugs, under DSHEA, no FDA approval of stevia was required before products derived from stevia could be marketed in the United States.

But stevia could not be marketed or used as a food additive, which is defined by DSHEA as "any substance the intended use of which results or may reasonably be expected to result, directly or indirectly in its becoming a component or otherwise affecting the characteristics of any food."

It wouldn't be long before a stevia derivative could be legally slipped into drinks and sweets. And that would make a lot of people, consumers and corporate CFOs alike, very happy, for who wouldn't welcome a new natural nonnutritive sweetener into the then-existing fray of tolerated-but-not-beloved artificial sweeteners in a country where individuals, health-care advocates, and lawmakers are struggling with an ever-growing obesity problem?

In 2008, the FDA designated as GRAS (generally recognized as safe) a highly processed derivative of the stevia plant known as rebaudioside A, or reb-A. Why? Because Cargill Inc. and the Coca-Cola Company—who were eager to manufacture, market, and use in their products a stevia-derivative-based sweetener on which they had recently collaborated—asked it to. GRAS status is a passive, almost noncommittal approval from the FDA based on a review of a body of research presented by the entity (here, Cargill and Coca-Cola) requesting GRAS status for a product currently banned as an additive. FDA does not do its own research or testing of a product before determining it GRAS. Still, experts and watchdog groups with no apparent financial interest in the Cargill–Coca-Cola goings-on concur that reb-A is safe since its estimated daily intake is well below its acceptable daily intake, a predetermined threshold below which no adverse affects are expected to occur. Even the Center for Science in the Public Interest (CSPI), an outspoken opponent of stevia supplements, begrudgingly agrees.

And so reb-A got the go-ahead for use as a sweetener in a variety of food products including cereals, energy bars, and soft drinks, and for use as a tabletop sweetener. It was

Cargill's plan to market a tabletop sweetener first, secure widespread consumer acceptance of the sweetener through an aggressive marketing campaign, then use that widely-accepted-sweetener-to-be in foods and drinks as well as sell it to other manufacturers that wanted to do so.

After a four-year incubation period, Cargill's Truvia was born and sprung on the masses as a natural and "honestly sweet" sweetener in December 2008. One of the original Truvia commercials touted "our new natural sweetener comes from the stevia plant … It's nature's ultimate indulgence … the first great-tasting, zero-calorie, natural sweetener born from nature." Touted another: "… it's the sweetness of the stevia plant, served straight-up, honest, uncomplicated…"

One little complication the ad campaign failed to be honest about: Because reb-A is 200 to 300 times as sweet as sugar, just a few specks of it are needed to sweeten, say, a cup of coffee. But you can't put just a few specs of sweetener into a tabletop packet. To bulk up the reb-A and to give the somewhat chalky substance a sugar-like look and feel, Cargill added a large helping of the sweetener erythritol to the mix; some sources say this addition makes up over 95 percent of tabletop Truvia.

Erythritol is a sugar alcohol that, like reb-A, is not an FDA-approved sweetener; it's merely GRAS. And though it does occur naturally in some fruits, "virtually all of the erythritol used as a food additive is produced by fermenting glucose with various yeasts," according to CSPI. Aside from its nonnaturalness in industrial applications, erythritol isn't necessarily a problem from a health viewpoint. CSPI goes on to say that "other than occasional allergic reactions, the only safety concern about erythritol is that eating too much of it could cause nausea."

The point is, if you pour a packet of Truvia into your tea, you're pouring in a packet of manufactured erythritol, and barely any all-natural stevia or reb-A. And Truvia isn't the only tabletop sweetener masquerading as stevia. Pure Via, developed by Merisant (of Equal fame) in partnership with PepsiCo, contains dextrose, a simple sugar, instead of erythritol. If you want to truly try stevia, your best bet may be the stevia supplements. A general rule seems to be emerging: Any stevia-related sweetener is likely to have at least some filler or flowing agent added; anything labeled as straight stevia is more likely to be just that—the non-GRAS dietary supplement.

And many stevia-containing beverages on store shelves are pumped up with erythritol and similar substances not to add bulk or body but to mitigate both the cost and bitterness of reb-A.

But even if straight stevia and its derivatives were to be fully FDA-approved substances, in applications such as the new Sprite, their utility may still be questioned. For example, the appearance of stevia on the ingredient list could mislead people who currently equate anything with "stevia" on the label with "sugar-free," which can be dangerous for those who much avoid sugar for medical reasons. For other health-conscious sugary-soda lovers, it may trigger the infamous "health halo" effect, in which a person's perception of a product's reduced health risks or increased health benefits compels that person to consume more of the product. And larger quantities of anything can be detrimental to one's health, whether or not that food is loaded specifically with sugar. "While sugar substitutes, such as refined stevia preparations, may help with weight management, they aren't a magic bullet and should be used only in moderation. If you eat too many sugar-free foods, you can still gain weight if they have other ingredients that contain calories," said Zeratsky.

Still other nutritionists would like to see us stem our pursuits of sweet sensations in general—not just replace one sweetener for another—regardless of any caloric trade-offs. As Seattle-based Andy Bellatti put it, "I would much rather people train their taste buds to get used to less sweetness, so they can appreciate the depth of flavors in whole foods. It takes our taste buds three to four weeks to get used to lower levels of sweetness; certainly not an overnight change, but one worth making."