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Zero-calorie stevia and monk fruit sweeteners are surging in popularity, but here's what you need to know

They appear to check all the right boxes, but are they as innocent as they seem?

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Stevia sweetens 300 times more than sugar cane, the basis for table sugar. PHOTO BY GETTY IMAGES

“Natural” reigns when it comes to food and beverage trends, and the low- and no-calorie sweetener category is no exception. Sales of stevia sweetener — led by Truvia Natural Sweetener — have eclipsed sales of artificial sweeteners including aspartame, sucralose and saccharin. Last August, research firm Nielsen reported that stevia sales had grown 11.9 percent year over year, while artificial sweetener sales were down an average of 6.6 percent.



such as cereal and nutrition bars and more than 150 percent in vitamins and lactose-free milk.

It's no wonder that natural sugar-free sweeteners are gaining favour. Americans are the top consumers of sugar in the world, with the average person taking in one-quarter of a cup of added sugars a day. Yet we're well aware that overconsumption of sugary foods and beverages is associated with obesity, Type 2 diabetes, heart disease and fatty liver disease.

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Consumers want to cut down on their sugar intake while still enjoying some sweetness. Artificial sweeteners once offered a solution, but their popularity has dwindled among concerns that they don't help with weight management and could even cause weight gain, metabolic syndrome and high blood pressure with continual use.

Natural sweeteners have the health halo of being plant-based and appear to check all the right boxes. But are they as innocent as they seem?



Truvia

What's the difference between these sweeteners?

Stevia leaves have been used as a sweetener since the 16th century, but the extract has only been approved for use as a food ingredient in the United States since 2008 and in Europe since 2011.

The full name of the stevia plant is *stevia rebaudiana* Bertoni. It is a shrub native to South America that is also grown in Japan and China. The leaves are harvested, dried and then steeped in hot water. The resulting liquid is filtered and purified to isolate the sweet compounds called glycosides, the most



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Its Natural Sweetener product has zero calories and is sugar free

Stevia is 200 to 300 times as sweet as sugar, so you only need a small amount to sweeten foods and beverages. It's low enough in calories that it can be called a “zero calorie” sweetener. To give it more bulk so it can more easily be used to replace sugar, other sweeteners, carbohydrates and fibers are typically added to packets and bags of stevia you see in the grocery store.

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One drawback is that some of the compounds in stevia, particularly steviosides, tend to have a bitter aftertaste. This is another reason other sweeteners are sometimes added.

Truvia is the top-selling stevia brand in the United States. Its Natural Sweetener product has zero calories and is sugar free. It's sweetened with reb A and is mostly erythritol, a sugar alcohol needed to provide bulk and help it measure like sugar. Natural flavors are also on the ingredients list.

Monk fruit, also known as lo han guo, is a small melon from China. The sweet component, mogroside V, is extracted from the dried fruit or juice and is 150 to 250 times as sweet as sugar. Monk fruit sweetener contains 2 calories per teaspoon, which is low enough to be labeled as “zero calorie.”



add bulk and improve the flavour.



Consumers want to cut down on their sugar intake while still enjoying some sweetness. PHOTO BY CNW GROUP/CALORIE CONTROL COUNCIL

Which is best for your health?

A systematic review last year found that natural and artificial sweeteners are often reviewed as one group instead of separate compounds, which makes it challenging to tease out whether some are better than others.

Stevia has been determined to be safe for use by the general population, including children. The Acceptable Daily Intake (ADI) has been set at four milligrams per kilogram of body weight. So, according to the Food and Drug Administration, if you weigh 150 pounds, you can have up to 273 milligrams of stevia — the equivalent of about 10 packets of stevia sweetener a day.

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Animal studies suggest stevia extracts are nontoxic. There also haven't been any negative reactions reported in humans to date. And a study of the effect of stevia extracts on fecal bacteria showed the bacteria balance wasn't significantly affected.

Research also shows stevia doesn't raise blood sugar and doesn't cause cavities the way sugars do. It may also help reduce insulin levels compared to artificial sweeteners: A study of 19 lean and 12 obese adults found that having stevia before a meal significantly lowered insulin levels after the meal compared with having aspartame, a sugar-free artificial sweetener.

There has been some concern that low-calorie sweeteners can make people hungrier because of anticipation of calories with sweet tastes. The aforementioned study in lean and obese individuals observed that when participants had stevia before a meal compared with sugar, they didn't compensate by eating more calories and reported no differences in hunger levels. A study from Singapore, however, found conflicting results. Thirty healthy men were randomized to have a beverage containing stevia, monk fruit, aspartame or sugar. They were served lunch an hour later. The results showed that having a sugar-free beverage, regardless of whether it was natural or artificial, led to the men eating more at lunch than if they had the sugary drink.



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Monk fruit sweetener contains little, if any, carbohydrates and zero sugar, so it doesn't raise blood sugar levels. Monk fruit is generally recognized as safe by the FDA, but no ADI limit has been set. Overall, the research on monk fruit is



people lose weight? So far, the evidence doesn't support the idea that low-calorie sweeteners boost weight loss.

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What about the other ingredients?

Some of the better ingredients to look for in your sweeteners include erythritol, inulin and cellulose. Some of the less desirable additions are dextrose, maltodextrin and lactose.

Erythritol is a sugar alcohol that's naturally found in grapes, mushrooms and beer. The food additive version is made from sugar from corn or wheat starch fermented by yeast; the compound is then separated and purified. Erythritol has 0.24 calories per gram, while sugar has four calories per gram, yet it's 70 percent as sweet as sugar. It also helps fight cavities.

This sugar alcohol has a minimal impact on blood sugar levels and doesn't seem to affect gut bacteria. Erythritol is considered to be safe based on animal studies of toxicity, cancer risk and reproductive health.

But be warned that overdoing it on sugar alcohols can cause bloating and other digestive issues, particularly in people with irritable bowel syndrome. Erythritol is one of the least offensive of the sugar alcohols because, unlike most others, it's resistant to fermentation by the bacteria in your colon.

Other common — and positive — ingredients in stevia and monk fruit blends include fibers such as inulin and cellulose. Inulin is mostly extracted from chicory root. This prebiotic has many potential health benefits and boosts good bacteria in the gut. It may also help control blood sugar and manage weight.



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Stevia brands such as Stevia in the Raw and Pure Via as well as several monk fruit sweetener companies add dextrose or maltodextrin to their blends. These simple sugars are high on the glycemic index. The amounts are small enough that if you're just having a packet or two, there will be little effect on your blood sugar. However, the amount of carbohydrates could add up if you're using a significant amount of these sweeteners.

Some brands will use lactose as their bulking agent. Although the amounts are small, this could be concerning for people who are lactose intolerant and especially sensitive and/or people using sweeteners in large amounts.

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The bottom line

Are stevia and monk fruit sweeteners better because they're natural? The plant and the fruit are certainly natural, but the extracts in your sweeteners have been processed and refined to create something that can be added to food and used in place of sugar.



use in food because of concerns related to kidney health.

It's also important to consider how you're using stevia and monk fruit sweeteners. Are you putting them in your morning coffee instead of sugar so you can have that extra doughnut? Then you're missing the point.

Low-calorie sweeteners should be used as a tool to help lower the added sugars in your diet. Even then, you should try to keep your use of them within reason to help your taste buds adapt to less sweetness over time. Another key strategy: Choose nutritious foods such as fruit more often to get fiber and nutrients along with natural sugars.

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