

# Chow Line

News from the College of Food, Agricultural, and Environmental Sciences

## Sugar alcohols aren't sugar or alcohol

**What is sugar alcohol? I gave up sugar when I found out it will go into your fat cells if you don't use it for energy. Does the same thing happen with sugar alcohols? And, is there a difference between different types of sugar alcohol?**

Sugar alcohols aren't really sugar and aren't really alcohol.

Without getting steeped in a chemistry lesson, the chemical structure of sugar alcohols resembles both sugar and alcohol (hence the name) but is different than both. That's why you won't get drunk on sugar alcohol, and why you might see it listed as an ingredient in gum, candy and other foods labeled as "sugar-free."

Although they're not sugar, sugar alcohols do contain calories — up to 3 calories per gram, compared with 4 calories per gram in regular sugar. That's why you often see the notice "Not a calorie-free food" on sugar-free food items that contain sugar alcohol. It's possible you may not be saving as many calories as you think.

The calories in sugar alcohols, just like other calories we consume, could end up in fat cells if the calories aren't immediately used for energy.

There are quite a few different types of sugar alcohols. Also called polyols, they have been used for decades in the food industry as an alternative sweetener and as a thickener. Different types have varying levels of sweetness and varying numbers of calories per gram. For example, according to the International Food Information Council's Sugar Alcohol Fact Sheet, online at [www.foodinsight.org/Sugar\\_Alcohols\\_Fact\\_Sheet](http://www.foodinsight.org/Sugar_Alcohols_Fact_Sheet):

- Xylitol has 100 percent of the sweetness of sugar but only 2.4 calories per gram, or 60



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percent of the calories of regular sugar.

- Hydrogenated starch hydrolysate (or HSH) has just 25-50 percent of the sweetness of sugar but provides 3 calories per gram — 75 percent of the calories of regular sugar.
- Erythritol has 60-80 percent of the sweetness of sugar but only about 0.2 calories per gram, a fraction of what's in regular sugar.

A benefit of sugar alcohols is that, although they're carbohydrates, they're not absorbed as quickly in the body as regular sugar is, and they are metabolized differently, requiring little or no insulin. If you have diabetes, that could be important, as they won't spike your blood sugar when you eat them.

Another upside of sugar alcohols is that they aren't broken down by bacteria in the mouth like sugar is, so they don't cause cavities.

However, there is a downside, too. Because the body doesn't digest sugar alcohols very well, they can make their way through the digestive system and into the lower intestine, where, when in large enough quantities, they can cause bloating, gas and even a laxative effect.

These effects vary with different types of sugar alcohols. Erythritol, for example, appears less likely to cause such problems. If you consume sugar alcohols and find yourself with digestive issues, cut back on them for a while and see if it helps.

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**Editor:** This column was reviewed by Carol Smathers, Ohio State University Extension's field specialist in Youth Nutrition and Wellness.

*Chow Line is a service of the College of Food, Agricultural, and Environmental Sciences and its outreach and research arms, Ohio State University Extension and the Ohio Agricultural Research and Development Center. Send questions to Chow Line, c/o Martha Filipic, 2021 Coffey Road, Columbus, OH 43210-1043, or [filipic.3@osu.edu](mailto:filipic.3@osu.edu).*

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