

Zerose[®] erythritol:

Ingredient IQ:
Erythritol

Zero-ing in on sugar reduction



For a growing number of consumers, perceptions around health, diet and sugar content are increasingly intertwined. The pandemic, which brought health to the forefront, amplified those ideas, bringing greater scrutiny to product labels and heightening interest in sugar reduction. This reality brings new challenges – and opportunities – to brands ready to embrace consumers' evolving expectations.

Diet, sugar and the “Healthy for Me” trend

Today’s focus on diet and health aligns with the “Healthy for Me” macrotrend, called out in Cargill’s proprietary TrendTracker.™ As consumers embrace this more proactive and preventative approach to health, we see its effect reflected in their attitudes around food and beverage choices.



How do they aim to accomplish that goal? By reducing sugar consumption. “Consumers are choosing to avoid sugar with the desire to increase general wellness and for a feeling of healthiness,” stated Euromonitor global industry manager Maria Mascaraque. “More consumers are prioritizing the idea of feeling good by taking a proactive, long-term approach.”²

That’s a challenge made all the more daunting by consumers’ unwavering demands for products that meet their flavor expectations. Research from FMCG Gurus, Cargill and others consistently finds taste is shoppers’ top priority when buying food and drink.

Consumers are actively seeking out foods and beverages that have a lower sugar content – but that does not mean they are willing to compromise on taste.

Hitting the sweet spot

While a myriad of factors has led to sugar’s image, the shifting public health environment certainly played a key role. The 2020-2025 Dietary Guidelines for Americans recommend limiting added sugar to less than 10% of total daily calories. Healthy People 2030, a project of the U.S. Department of Health and Human Services, has established a national objective for reducing the consumption of added sugar.³ Policy makers and regulators are being heard by consumers, who are looking for healthier options in almost every food and beverage category. For many, sugar levels are a key factor in deciding how healthy a product is.

Across the food and beverage landscape, sugar-laden products are falling out of favor, propelled by a more health-conscious consumer base. With consumers looking to reduce sugar consumption, food and beverage manufacturers are scrambling to respond.

Their progress is evident in the proliferation of sugar-related front-of-pack claims. According to Innova, the most prominent claim, “no added sugar,” appeared on more than half of 2021 food and beverage launches that made a sugar-related claim.⁴

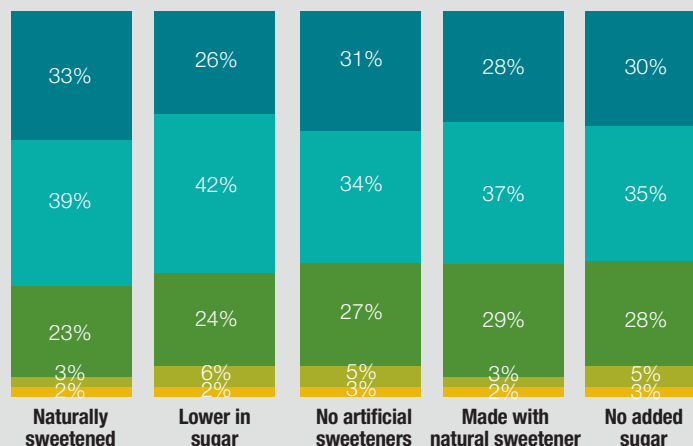
It is worth noting that the adoption of sugar-related claims varies by application. For some categories, marketers are taking a “stealth health” approach to sugar reduction, with smaller cuts and fewer label claims. In other segments, manufacturers are boldly using claims as a means to entice sugar-wary shoppers.

Soft drinks come out on top as the most active category, accounting for more than one-fifth of products with a sugar-reduction claim in 2022. Sports nutrition, alcoholic beverages and products for babies/toddlers are other categories showing strong growth in new products with sugar claims.⁵

Sweetener claims have a neutral-to-positive purchase impact

especially natural claims

- More likely
- Somewhat more likely
- No difference
- Somewhat less likely
- Less likely



3 in 5 consumers say the top 5 claims increase their purchase likelihood

Source: Cargill Sweetener Claims & Kids’ Research, 2021.

Base: Total (n=1,288) Q3: If you were doing your grocery shopping and noticed the following claims on a packaged food or beverage, would each claim make you more likely to purchase the product for your own consumption, make no difference in your decision, or make you less likely to purchase the product for your own consumption?

Growth in sugar-reduced sweeteners

U.S., 52 weeks ending 5/6/23

Sweetener	\$ Volume	% Change YoY
Sugar	\$152,577,676,270.53	12.25%
High Fructose Corn Syrup	\$40,388,738,935.96	12.22%
Sucralose	\$16,565,367,118.10	13.19%
Acesulfame (Ace-K)	\$12,791,504,909.29	16.96%
Stevia	\$4,702,993,522.31	12.56%
Erythritol	\$3,127,429,552.77	6.31%
Xylitol	\$974,211,906.93	18.05%
Monk Fruit	\$352,654,233.84	17.57%
Allulose	\$149,422,880.04	38.66%

Source: Nielsen xAOC 52 weeks ending 5/6/23.

But meeting sugar-reduction targets is just the beginning. Sugar plays a key role in formulation, influencing not only taste, but also appearance, physical and textural attributes, shelf life and more. Determining which sweetener to use depends on many factors, including product application, ingredient availability, price, regulatory requirements and consumer perceptions.

Though the use of artificial sweeteners continues to rise, shoppers are still more likely to reject artificial sweeteners than sugar. Over 55% of consumers rate artificial sweeteners as “bad,” while opinions on sugar are more mixed.⁶ But there are sweetening solutions that fare better.⁷

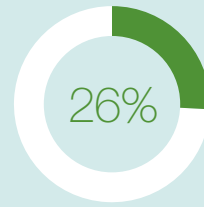
Stevia sweeteners have a lot going for them from a product development standpoint, as well as with consumers. Not only do they have the ability to deliver up to 300 times the sweetness of sucrose, but they also contain zero calories.

Polyols are also finding a place in the sugar-reduction space. From zero to 2.6 calories per gram, they can help replace both the bulk and sweetness of sugar. They are tooth-friendly, allowing dental health claims, and they work well in synergy with high-intensity sweeteners.

The shift in consumer attitudes towards more natural alternatives has been a boon for sweeteners like stevia and erythritol. Across the food and beverage landscape, erythritol ranks as one of the fastest-growing sweeteners, with nearly one-quarter of U.S. product launches tracked with a sugar reduction claim and sweeteners from 2019 to 2021 containing erythritol.⁸

Dig into erythritol's sugar-reduction resume, and it's easy to understand the sweetener's growing fan base. A non-artificial sweetener, erythritol is found in fruits such as grapes and pears, as well as fermented foods and beverages like wine, beer and soy sauce. It looks and tastes like sugar — but without the calories — making it a great fit for manufacturers looking to reduce sugars and avoid artificial sweeteners.

Erythritol is produced via the age-old process of fermentation, making it a good choice for consumers looking for more sustainable ingredients. Erythritol's clean, sweet taste is a big reason for its growing popularity, but the zero-calorie sweetener brings a range of other advantages, too. Among other benefits, it helps to add smoothness and body to reduced-sugar formulations, replacing sugar's bulk. It's also a great partner to stevia, masking off-flavors, delivering more upfront sweetness, and providing a rounder, more sugar-like sweetness profile.



Erythritol use has been growing steadily, with a 26% CAGR in new product launches from 2018-2022.



More than 50% of new product development in food & beverages containing erythritol also contained stevia.

Source: Innova Market Insights, 2016-2021

ERYTHRITOL'S BENEFITS



Sugar-like: clean taste, adds smoothness & body



Zero calories



Tooth-friendly & non cariogenic



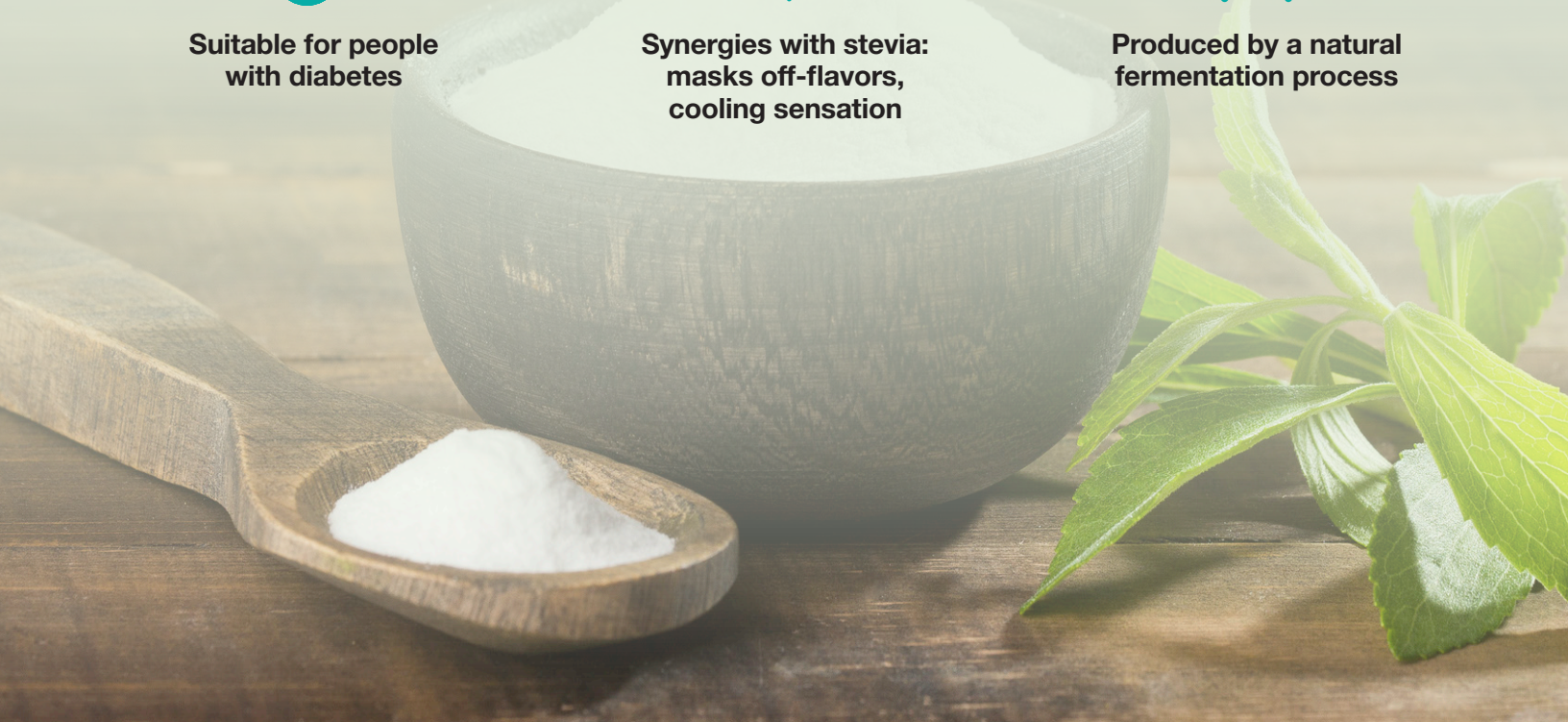
Suitable for people with diabetes



Synergies with stevia: masks off-flavors, cooling sensation



Produced by a natural fermentation process

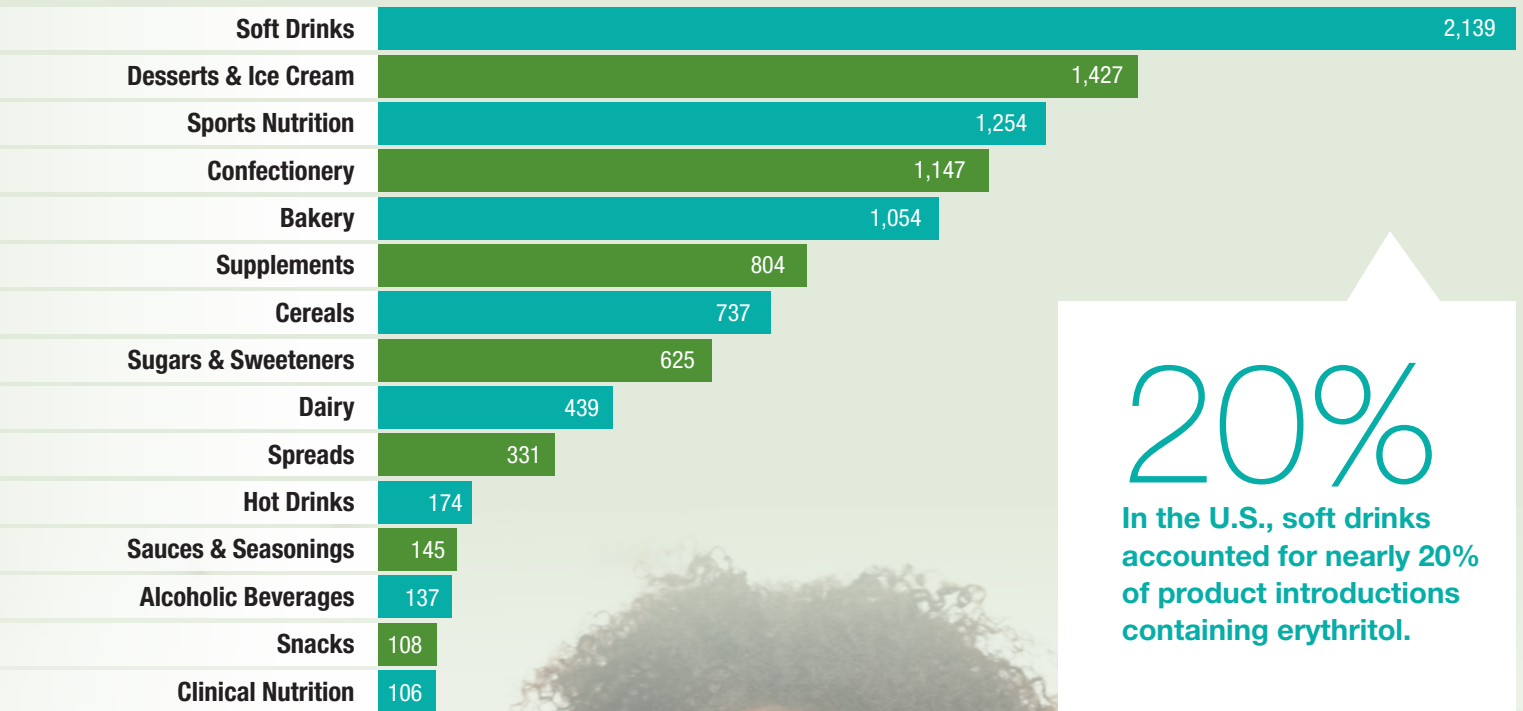


Category focus

While erythritol can be found in applications from confectionery to spreads, most of the new product launches are in the soft drinks category.

In the U.S., soft drinks accounted for nearly 20% of product introductions containing erythritol. Other key categories include desserts & ice cream, sports nutrition and confectionery.⁶ Not surprisingly, these are all segments under pressure to reduce sugar content.

Global product launches containing erythritol



20%

In the U.S., soft drinks accounted for nearly 20% of product introductions containing erythritol.

Source: Innova



Cargill sweetness solutions

Consumers' heightened interest in healthier food and beverages, coupled with increased ingredient scrutiny, have created new formulation challenges. Cargill's industry-leading sweetener portfolio, together with texturizers, functional ingredients and more, can help you delight consumers with label-friendly, on-trend products.

INGREDIENT SPOTLIGHT

Zerose® erythritol

A non-artificial, zero-calorie bulk sweetener with a taste and functionality similar to sucrose. Not only does Zerose erythritol enable significant sugar reduction in a wide range of applications, it also offers oral health benefits and can be used in products making non-GMO* claims. Zerose erythritol is produced domestically and sustainably via fermentation.



Stevia-based sweeteners

Achieve amazing, sugar-like taste and up to 100% sugar reduction with the industry's most advanced portfolio of high-intensity sweeteners, including:

- **EverSweet® + ClearFlo™** Our next-generation EverSweet stevia sweetener, plus ClearFlo natural flavor, delivers enhanced sweetness and sensory performance with dramatically improved solubility.
- **EverSweet® stevia sweetener:** Reb M sweetness – produced sustainably via fermentation – offers up to 100% sugar replacement without bitterness.
- **ViaTech® stevia leaf extract:** Our most advanced leaf-based sweetener enables sugar reductions of 50% or more.
- **Truvia® RA95 stevia leaf extract:** Leaf-based stevia sweetener, best for lower sugar reduction levels.



A partner to take you further



Fast-moving trends, elevated consumer expectations and dynamic market conditions make product development more complex than ever. Partner with Cargill to gain access to industry-leading ingredients and expertise and bring differentiated products to market more quickly.

- **Industry-leading ingredient portfolio** – Choose high-quality starches, sweeteners and texturizers; functional ingredients; fats and oils; cocoa and chocolate; salt and beyond.
- **Proprietary consumer insights** – Leverage data-driven consumer insights to guide product strategy.
- **Collaborative product development** – Work side-by-side with Cargill ingredient and application experts; develop and test product prototypes in our labs.
- **Reliable global supply chain** – Cargill's global manufacturing footprint and efficient production assure a reliable supply of in-demand ingredients.

Learn more about Zerose[®] erythritol.



* There is no single definition of "non-GMO" in the USA. Contact Cargill for source and processing information.
EverSweet[®] is a product of Avansya, a joint venture of DSM and Cargill.

References

- ¹ Source: IFIC. Understanding "Healthy" and the Impact of Nutrition Labeling on Food Decisions. (2023).
- ² Food Navigator USA. "How are Consumers Thinking About Sugar Reduction and Sweeteners?" August 23, 2021. <https://www.foodnavigator-usa.com/Article/2021/08/23/Euromonitor-How-are-consumers-thinking-about-sugar-reduction-and-sweeteners>
- ³ CDC.gov "Get the Facts: Added Sugar." <https://www.cdc.gov/nutrition/data-statistics/added-sugar.html#:~:text=Americans%20%20years%20and%20older,with%20added%20sugar%20at%20all.>
- ⁴ Innova data cited in Prepared Foods: "Sugar Reduction Remains a Priority for Consumers and Manufacturers." November 16, 2022.
- ⁵ Ibid.
- ⁶ HealthFocus International. "Sweetener Solutions: A Path Forward." 2020.
- ⁷ Innova Market Insights. 2016-2021.
- ⁸ Ibid. Innova data cited in Prepared Foods.

Claims: The labeling, substantiation and decision making of all claims for your products is your responsibility. We recommend you consult regulatory and legal advisors familiar with all applicable laws, rules and regulations prior to making labeling and claims decisions.