

The evolution of sugar reduction

Insights
Report



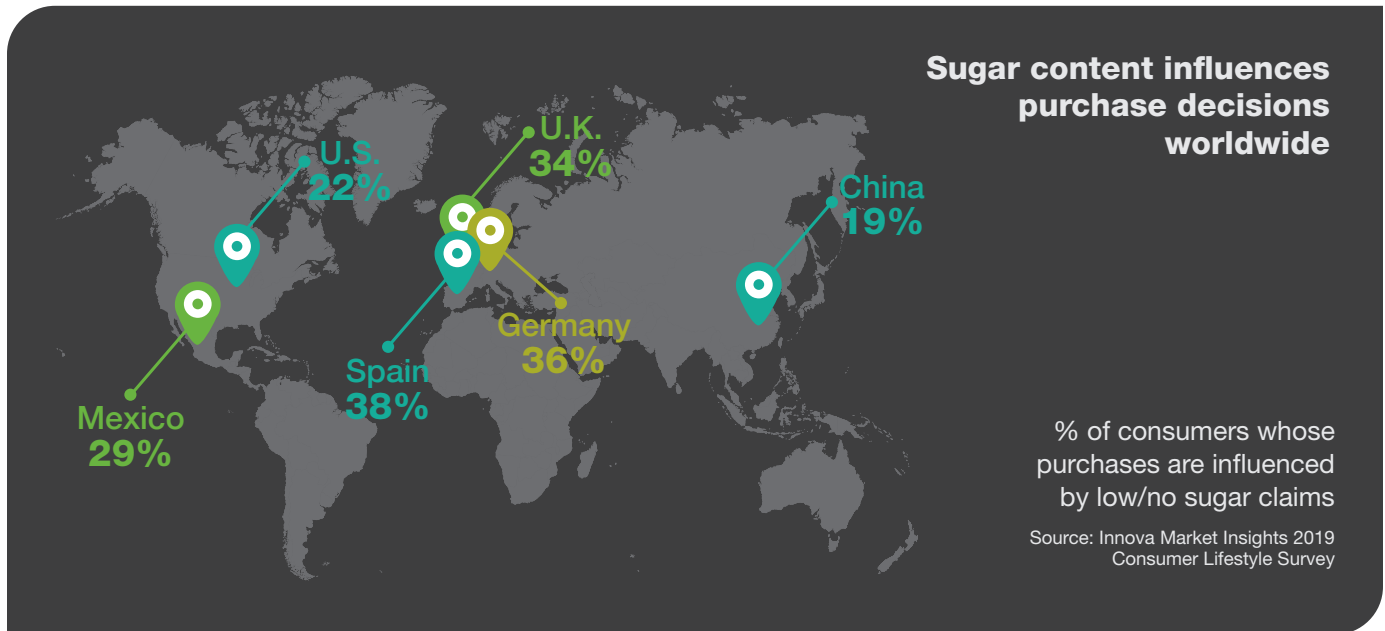
Consumers are tempering their love for sugary foods in response to global recommendations to limit calories from added sugars.¹ In fact, a recent study found that 80% of respondents said they were trying to limit or avoid sugars in general.² Many factors contribute to this shift in behavior. One such factor is healthcare messaging linking excessive sugar consumption, poor eating habits, and a sedentary lifestyle to obesity and other health concerns.³ It has sparked a focus on healthier lifestyles and “clean” eating.

Government agencies and lawmakers have also enacted laws targeting sugar. In the United States, new federal regulations require added sugars to be included on the Nutrition Facts Labels. Also some cities, states and countries are now imposing a tax on high-sugar products like soft drinks.

While the United States is leading the way, concern about added sugar in foods and beverages is a growing global issue.⁴

Changing regulatory landscape

The increased focus on sugar consumption in relation to weight management is leading to new regulatory guidelines in numerous markets around the world:



FDA has extended the compliance dates for changes to labeling added sugars and dietary fiber to provide more time for manufacturers to review FDA guidance on the rules once finalized and implement them.⁵ Implementation of the changes to the Nutrition Facts Label took effect January 2020 for companies with \$10 million or more in annual food sales; January 2021 for companies with less than \$10 million in sales.

CURRENT LABEL

Nutrition Facts			
Serving Size 2/3 cup (55g)			
Servings Per Container About 8			
Amount Per Serving			
Calories 230	Calories from Fat 72		
		% Daily Value*	
Total Fat 8g		12%	
Saturated Fat 1g		5%	
Trans Fat 0g		0%	
Cholesterol 0mg		0%	
Sodium 150mg		7%	
Total Carbohydrate 37g		12%	
Dietary Fiber 4g		16%	
Sugars 1g			
Protein 3g			
Vitamin A		10%	
Vitamin C		0%	
Calcium		20%	
Iron		5%	

* Percent Daily Values are based on a 2,000 calorie diet. Your daily value may be higher or lower depending on your caloric needs.

	Calories	2,000	2,500
Total Fat	Less than	45g	80g
Sat Fat	Less than	20g	35g
Cholesterol	Less than	300mg	300mg
Sodium	Less than	2,400mg	2,400mg
Total Carbohydrate		300g	375g
Dietary Fiber		25g	30g

NEW LABEL

Nutrition Facts	
8 servings per container	
Serving size	2/3 cup (55g)
Amount per serving	
Calories	230
% Daily Value*	
Total Fat 8g	10%
Saturated Fat 1g	5%
Trans Fat 0g	
Cholesterol 0mg	0%
Sodium 160mg	7%
Total Carbs 37g	13%
Dietary Fiber 4g	14%
Total Sugars 12g	
Includes 10g Added Sugars	20%
Protein 3g	
Vitamin D 2mcg	10%
Calcium 260mg	20%
Iron 8mg	45%
Potassium 235mg	6%

*The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.

Serving sizes

are more realistic to reflect how much people typically eat or drink at one time (sugar and calorie numbers may increase on the label)

Calories

are shown in a larger size

Daily value %s

have been updated and will be listed more prominently

Added sugars

are called out separately

A daily value

of 50 grams is used to calculate the % for Added Sugars line

Taxes on sugary beverages gain momentum around the world

Experts are mixed as to whether sugar taxes are a good idea.^{6,7,8}

One reason is that the link between sugary beverages and obesity is not conclusive, as many other factors may play a role in causing a person to gain weight. Detractors also debunk the taxes as being imposed in order to provide a revenue source, rather than a legitimate effort to reduce sugar consumption. Nevertheless, while research continues to examine the impacts of sugar intake on long-term health, it is likely these taxes will continue to gain ground.^{9,10,11,12}



Source: "The Short and Sweet on Taxing Soda," Institute on Taxation and Economic Policy. <https://itep.org/wp-content/uploads/sodatax102816.pdf>
 *Chicago's Cook County Board Rolls Back Tax on Sweetened Drinks. *The Wall Street Journal*, Oct. 10, 2017.

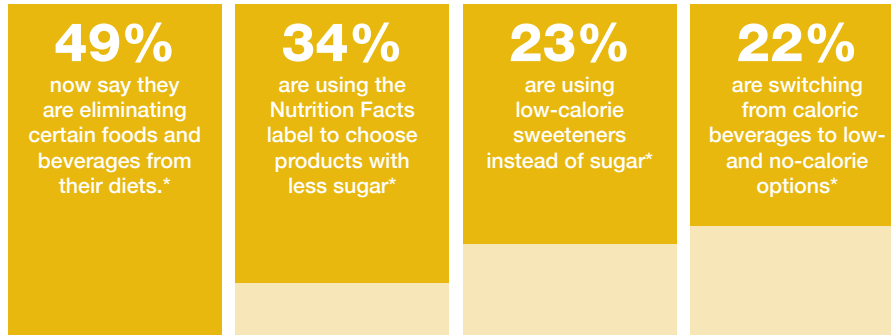
The sugar and health connection

Current scientific findings and the regulatory spotlight are bolstering existing consumer perceptions that sugar is bad for health. Weight gain is the most cited health issue attributed to excess sugar consumption by consumers,¹³ but other factors such as concern about diabetes and a general feeling that less sugar is healthier and better for kids are also of importance to consumers. Some of these issues gain relevance for consumers as they are directly affected by personal health concerns like diabetes or as they start a family. According to findings from Cargill's proprietary research on the "clean label" trend and consumer perceptions, consumers focus on reducing sugar because of a general belief that it is healthier (36%), because they are trying to lose weight (19%) and those with kids in the household say they don't want their children to have too much sugar (23%).¹⁵



The impact on products

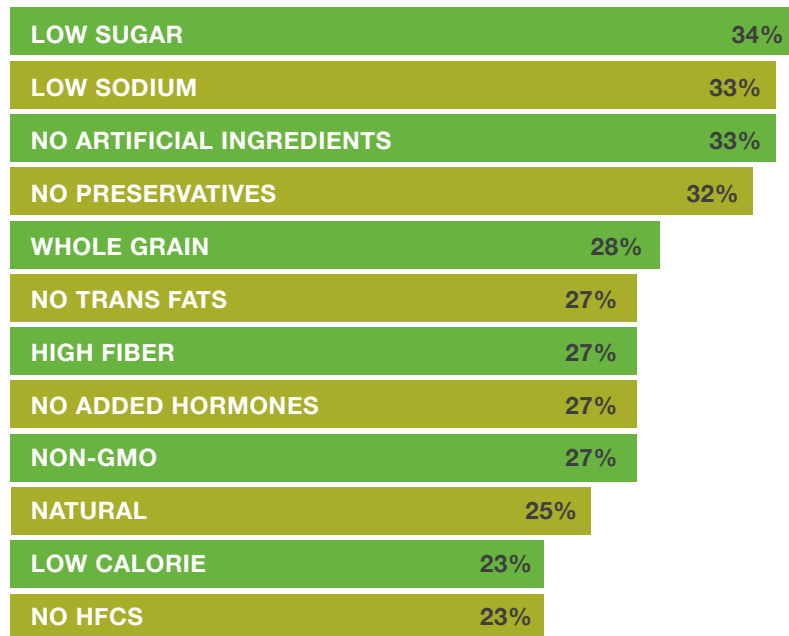
To say that these trends are having an impact on brands and product purchases may be an understatement. Research continues to show that sugar reduction is among the top product claims sought after by consumers. The drive to reduce sugar in their diet is prompting consumers to take a variety of actions:



*IFIC Food and Health Survey, 2019

That said, many consumers also have a mixed opinion about low- and no-calorie sweeteners, although 26 percent of consumers now believe that these sweeteners help them reduce their consumption of sugar.*

Low sugar tops the product claims shoppers are looking for



Source: FMI US Grocery Shopper Trends, 2019



Sugar avoidance is on the rise

Unprecedented numbers of consumers say they are looking to reduce their sugar intake or avoid it altogether.¹³

For the past several years, sugar has been the top ingredient that consumers are seeking to limit or avoid in their diet, and the numbers continue to rise.



48% of U.S. shoppers check labels for sugar content

Source: NPD, Nov. 2017



80% said they are trying to avoid or limit their sugar intake

Source: 2019 IFIC Food and Health Survey

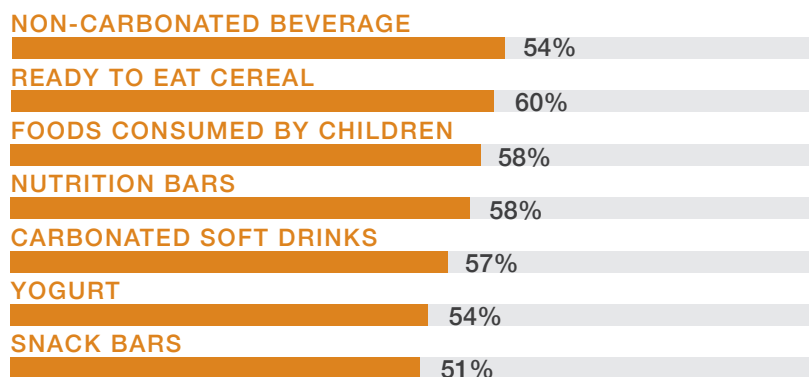


A perfect storm for **formulators**

As the debate about sugar takes center stage, companies are scrambling to reformulate existing products and/or introduce new low-sugar or no-sugar-added options. Though there are increasing numbers of new ingredients available, the lingering question for formulators is: “what ingredient should I use?” There is no clear answer, because there is no one-size-fits-all solution. Formulators have relied on sugar for a variety of functions, from taste and texture to mouthfeel and viscosity. That is a tall order for any single ingredient. Plus, what works well in a cake might not be best for a dairy product.

Furthermore, when it comes to sugar reduction in products, certain food categories seem to be more important than others. For example, consumers are less worried about sugar content in indulgent products like candy, but categories such as soft drinks and foods for children are on the front lines of sugar scrutiny. This is likely higher among parents, with 73% of consumers who say they have children in the household noting they pay attention to sugar in foods for kids.¹⁵

Consumers are paying attention to sugar in ...



Source: *Transparency and Simplicity: The New Normal in Product Development* Proprietary Research, 2017

Who is the **consumer** for sugar reduction products?

Sugar reduction is of growing concern for consumers across many different demographic groups. Here are a few insights into what is important for them:

- More than half of women (52%) say they are looking to reduce their sugar intake.¹⁴
- Millennials, just starting their families, express growing concern about sugar content, especially in products geared toward children.¹⁵
- Baby Boomers are reaching that age when they are starting to feel the effects of a poor diet and are motivated to make improvements that will maintain good health as they age.
- Eight in ten say they are taking more responsibility for their health as compared to ten years ago.¹⁶
- Six in ten consumers view sugar negatively, but they still largely prefer the taste of sugar to artificial sweeteners.¹⁷
- Overall, healthy eating is important to all of these consumers who are seeking sugar reduction, but weight management is likely a top motivator.¹⁷

Anatomy of a category: Soft drinks in the hot seat

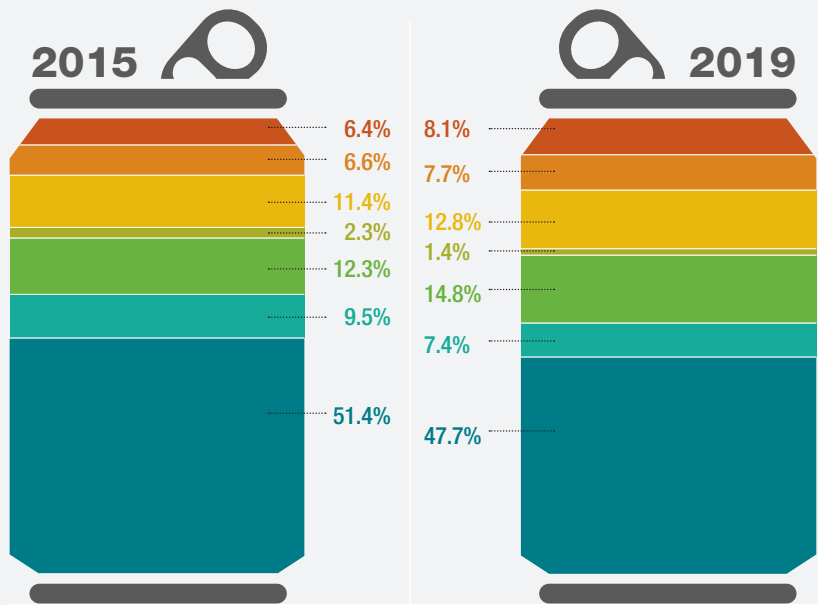
Soft drinks have been at the center of debate about sugar content from the start.¹⁸ But as a result, the category is well ahead of the curve with respect to reduced-sugar product formulation. According to Innova Market Insights, sugar content influences a majority of consumers' decisions to purchase a soft drink: of the 2018 product launches featuring a sugar-reduction claim, 23% were in the soft-drink category.¹⁹

The attention on soft drinks helped to propel development and interest in high-intensity sweeteners from the stevia plant with both large and small consumer brands. In recent years, stevia has increasingly been used in other beverage categories, such as juice drinks and flavored waters. According to Innova, 25% of global beverage product launches include stevia-based sweeteners, making it the most used alternative sweetener in the category. Next-generation products are utilizing blends of stevia extracts and erythritol, which can provide a closer match to consumer taste expectations in these product formulations.

Penetration of sweeteners in soft drinks category (Global, 2015 vs. 2019)

Global soft drinks that include:

- Stevia ■ Aspartame ■ Sucralose ■ Saccharin ■ Acesulfame K
- High Fructose Corn Syrup ■ Sugar



Four-year CAGR

Stevia.....	+7.8%
Aspartame.....	+6.1%
Sucralose.....	+4.8%
Saccharin.....	-11%
Acesulfame K.....	+6.50%
High Fructose Corn Syrup.....	-4.4%
Sugar.....	-0.1%

Innova Market Insights 2020

Does the sugar content of soft drinks influence consumer purchasing decision?

2018 Answer: Yes

52%
U.S.

63%
U.K.

99%
Mexico

Innova Market Insights 2018



Finding a solutions provider

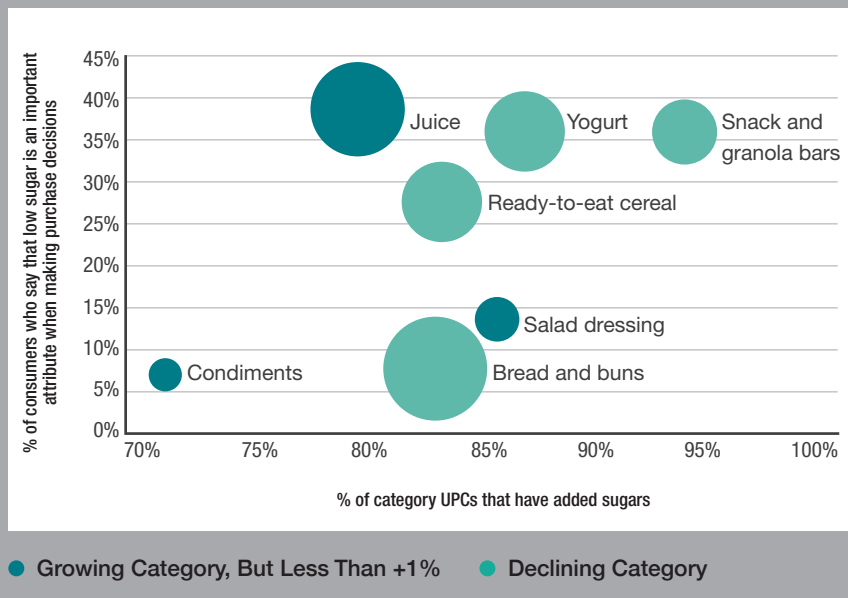
- Brands that are successfully reformulating rely on suppliers with expertise in the sugar reduction space.
- Look for a supplier with deep experience in sugar-reduction product development and a broad portfolio of sugar-reduction solutions.
- Partner with a supplier with application expertise—a long history and experience with top-tier technical service and applications.

Claims and label insights

FDA has updated the Nutrition Facts label for packaged foods to help consumers make healthy, more informed decisions when buying products. The new label increases the focus on serving sizes, calorie counts and includes a new line for added sugars. The following product categories are likely to see the biggest impact.²⁰

The influence of sugar on purchase decisions

Categories with sugar could be affected by label changes



Source: Nielsen/Label Insights Transparency ROI Study, 2016

As a result, ingredient suppliers are rising to the challenge with innovations in sweetener technologies that are raising the bar and producing products that are not only lower in sugar and calories, but also taste great.

If you reformulate ...

Overall, consumers are becoming more educated about nutrition and health,

but they are still misinformed about alternative sweeteners and they likely do not know the breadth of new natural sweetener ingredients for sugar reduction, so there remains a key educational opportunity.

What consumers say they want and what they actually purchase are not always in sync.

So, experts now advise that brands should approach sugar reduction with many factors in mind, such as a deep understanding of what their consumers are looking for in their particular product. Once a brand decides to provide a low- or no-sugar option, the manufacturer should work to meet taste expectations while using ingredients that offer a simple, label-friendly appeal. It is best to be as clear and transparent as possible about

your sugar reduction efforts (what ingredients you are using and why), so that consumers will understand the reasoning behind the ingredient changes. Ultimately, they will likely thank you for it with ongoing trust and repeat purchases.

To learn more about Cargill's growing portfolio of sugar reduction ingredients please visit Cargill.com/sugarreduction.

*FDA does not define natural.

References

- 1 World Health Organization. Guideline Sugars Intake for Adults and Children; World health Organization; Geneva, Switzerland, 2015; pp.1-49. Hess, J; Latulippe, M.E.; Ayoob, K.; Slavin, J. The confusing world of dietary sugars; Definitions, intakes, food sources and international dietary recommendations. *Food Funct.* 2012, 3, 477-486.
- 2 International Food Information Council (IFIC) 2019 Food and Health Survey, accessed at <http://www.foodinsight.org/2019-food-and-health-survey>
- 3 WHO calls on countries to reduce sugar intake among adults and children. March 2015. <http://www.who.int/mediacentre/news/releases/2015/sugar-guideline/en/>
- 4 “The Sweet Danger of Sugar.” Harvard Health Publishing, Nov. 2019 <https://www.health.harvard.edu/heart-health/the-sweet-danger-of-sugar>
- 5 FDA proposed to extend compliance dates for nutrition facts label final rules. <https://www.fda.gov/Food/NewsEvents/ConstituentUpdates/ucm577264.htm>
- 6 The Short and Sweet on Taxing Soda, Institute on Taxation and Economic Policy <https://itep.org/wp-content/uploads/sodatax102816.pdf>
- 7 Arsenault BJ, et al. Targeting overconsumption of sugar sweetened beverages vs overall poor diet quality for cardio metabolic diseases risk prevention: Place your bets. *Nutrients* 2017. June 13;9(6). piiE600. <https://www.ncbi.nlm.nih.gov/pubmed/28608806>
- 8 Bes-Restrollo M et al. Impact of sugars and sugar taxation on body weight control. A comprehensive literature review. *Obesity (Silver Spring)*. 2016 July;24(7):1410-1426. <https://www.ncbi.nlm.nih.gov/pubmed/27273733>
- 9 Donaldson, EA, et al. *Public Health Nutr.* 2015. Aug;18(12):2263-2273. <https://www.ncbi.nlm.nih.gov/pubmed/25430945>
- 10 Briggs AD, et al. Overall and income specific effect on prevalence of overweight and obesity of 20% sugar sweetened drink tax in UK; econometric and comparative risk assessment modelling study. *BMJ.* 2013 Oct 31;347:f6189. <https://www.ncbi.nlm.nih.gov/pubmed/24179043>
- 11 Briggs AD et al. The potential impact on obesity of a 10% tax on sugar-sweetened beverage in Ireland, an effect assessment modelling stud. *BMC Public Health* 2013 Sept. 17;13:860. <https://www.ncbi.nlm.nih.gov/pubmed/24044370>
- 12 Hagenaaers LL, et al. The taxation of unhealthy energy-dense foods (EDFs) and sugar-sweetened beverages (SSBs): An overview of patterns observed in the policy content and policy context of 13 case studies. *Health Policy* 2017. Aug;121(8): 887-894. <https://www.ncbi.nlm.nih.gov/pubmed/28711301>
- 13 Ibid. 2019 Food and Health Survey from IFIC.
- 14 Label Insight. “Americans are Planning to Avoid Sugar and Eat More Sustainably in 2018.” January 4, 2018.
- 15 Transparent, Simple, Clean: The New Norm. Cargill Proprietary Research 2017
- 16 Natural Market institute Research. 2017 reported in Boomers have desire, need for healthy products. *NaturalProductsINSIDER.* Oct. 2017. <https://www.naturalproductsinsider.com/articles/2017/10/boomers-have-desire-need-for-healthy-products.aspx>
- 17 IFIC Food and Health Survey, 2017.
- 18 Bray GA, et al. Dietary sugar and body weight: have we reached a crisis in the epidemic of obesity and diabetes and obesity?: health be damned! Pour on the sugar. *Diabetes Care.* 2014 Apr;37(4):950-956. <https://www.ncbi.nlm.nih.gov/pubmed/24652725>
- 19 Innova Market Insights research cited in Chemical Engineering News, “The Sugar Wars Are About to Change Your Food Label. Here’s Why.” October 20, 2019. <https://cen.acs.org/business/specialty-chemicals/sugar-wars-change-food-label/97/i41>
- 20 Nielsen/Label Insight Transparency ROI Study, 2017. <https://www.labelinsight.com/transparency-roi-study>