Sweeteners: Innovations to meet consumer preferences
The latest in natural sweetening solutions
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Remember when Americans thought fat made us fat and sugar was maligned mainly for rotting teeth? If we only knew 20 years ago what we know now—that dietary fat can be healthy while excess added sugars are a primary cause of weight gain—perhaps more than 70% of U.S. adults wouldn’t be overweight or obese.1 Similarly, if we’d understood that sugar-stocked beverages and processed foods contributed to cardiometabolic conditions, maybe more than 100 million Americans wouldn’t be living with diabetes or prediabetes; some 30 million wouldn’t have heart disease3 and obesity-related cancers wouldn’t be increasing at a steady clip.4

Backed by solid research linking added sugars to myriad health problems, the federal government’s 2015–2020 Dietary Guidelines for Americans shined a spotlight on added sugars’ evils, advising that they account for no more than 10% of our daily caloric intake. In 2016, the Food and Drug Administration (FDA) took further action, mandating that added sugars be noted separately from total sugars in the Nutrition Facts panel, effective starting in 2020. By steering shoppers toward healthier food and beverage choices and prompting industry to reformulate products with low or no added sugars, the reformatted label is predicted to prevent or postpone 708,000 cases of cardiovascular disease and 1.2 million cases of type 2 diabetes by 2034, according to research published in the journal Circulation in April 2019.5

Consumers and industry alike have heard these messages loud and clear. The International Food Information Council’s 2020 Food and Health Survey, which polled roughly 1,000 U.S. adults between April 8 and April 16, 2020, revealed that 71% of consumers with a college degree (and 62% of those without) believe that the amount of added sugars ingested impacts health. What’s more, among all respondents, 37% think added sugar consumption has a major impact on health. Correspondingly, 74% of consumers reported actively trying to limit or avoid sugars in their diet.6 The popularity of the ketogenic, Whole30 and paleo diets, along with the momentous trend toward clean eating, have furthered shoppers’ sugar-avoidance efforts.
What exactly is replacing added sugar in consumers’ diets? In some cases, nothing. Many simply opt for unsweetened alternatives, such as seltzer water over root beer, or bitter-, spicy- or umami-flavored foods instead of sweeter stuff. That said, America still has a sweet tooth, and plenty of people still crave products that aren’t outwardly sweet but rely on sugar for flavor and function, including pasta sauces, salad dressings and crackers.

As such, when sugar content is slashed in such items, other ingredients must step in to fill the void. Sucralose or aspartame may have been viable substitutes in the past, but synthetic sweeteners have largely fallen out of favor. In fact, an Innova Market Insights survey found that three in five U.S. consumers would rather just avoid sugar, presumably forgoing sweetness, than consume artificial sweeteners. Some may be concerned about these ingredients’ potential health effects, while a growing contingent simply wants clean-label products, for which laboratory-created components don’t fit the bill.

Fortunately for formulators, there are now countless natural sweetening solutions available to design foods and beverages that satisfy both consumers’ clean-label criteria and their taste buds. While classic whole-food sweeteners such as honey are having a heyday, the dueling drives to meet the demands of health-conscious consumers and comply with the new Nutrition Facts panel without derailing a product’s perceived healthfulness have also sparked a watershed of innovation in the ingredients space. Suppliers have improved upon traditional natural sweetening agents, many of them low calorie or calorie free, and also developed new options that deliver desirable flavor, functionality and formulation ease. Along with imparting sweetness, many serve non-flavor-related roles to account for the loss of sugar, such as supplying structure or texture; some even provide bonus nutrition.

Stevia was among the first natural sweeteners to gain significant traction. Derived from *Stevia rebaudiana* leaves, this zero-calorie ingredient gets its sweetness from steviol glycosides, ranging from 40 to 500 times as sweet as sucrose. First-generation stevia extracts relied on rebaudioside A (reb A), known for its bitter, licorice-like aftertaste, which turned off some consumers. Although reb A remains the most prominent glycoside used in stevia ingredients today, leading suppliers have perfected their offerings. Some have also begun tapping reb D, reb M and other glycosides and using fermentation or other processing technologies to temper taste concerns, deliver desired sweetness levels and enhance formulation flexibility.
Another natural alternative, monk fruit, or luo han guo, has seen its star rise rapidly in recent years. This zero-calorie, low-glycemic sweetener is about 200 times sweeter than sucrose, has a fruitier flavor and possesses potential antioxidant and anti-inflammatory properties. According to Informa’s NEXT Data & Insights team, which analyzes trends based on products showcased at Natural Products Expo West, monk fruit was featured in 319 foods or beverages at Expo West 2019, compared to 152 at the 2017 trade show, representing 88% share growth. The only other natural sweetener to post share growth in that span was honey, at 7%.

Versatile sugar alcohols such as erythritol, xylitol, glycerin and isomalt are also increasingly popular, particularly for beverages. Erythritol especially has been gaining major traction. The NEXT database shows it popped up in 302 products at last year’s Expo West, up from 210 products in 2017, for 29% share growth. With a clean taste, erythritol is 70% as sweet as sucrose and provides great solubility and sugar-reminiscent bulk and mouthful.

A newer entrant on the scene, allulose is believed by many to be a game changer because it bulks, functions and tastes a lot like sugar but has 90% fewer calories and doesn’t derail blood glucose levels. A monosaccharide isomer from fructose, allulose—about 70% as sweet as sugar—is found in figs, raisins, wheat, maple syrup and jackfruit, but in very small quantities, which is why it’s often dubbed a “rare sugar.” Just last year, citing allulose’s negligible calorie count and low glycemic impact, FDA issued draft guidance permitting its exclusion from the added and total sugars declarations in the Nutrition Facts panel, making it even more attractive to food and beverage brand owners.

Other clean-label sugar-reducing solutions that formulators should have on their radars include tapioca syrup, sweet potato concentrate, and chicory root and other prebiotic fibers containing inulin and oligofructose. There is also a broad range of sweetening systems—comprehensive blends of multiple ingredients that deliver precise sweetness and flavor profiles, as well as formulation attributes to meet product developers’ unique specifications. By partnering with a trusted supplier with expertise in natural sweeteners and sugar reduction, brand owners and formulators can develop winning clean-label foods and beverages.

Endnotes
1 https://www.cdc.gov/nchs/fastats/obesity-overweight.htm
2 https://www.cdc.gov/media/releases/2017/p0718-diabetes-report.html
3 https://www.cdc.gov/nchs/fastats/heart-disease.htm
5 Huang Y et al. “Cost-Effectiveness of the US Food and Drug Administration Added Sugar Labeling Policy for Improving Diet and Health.” Circulation. 2019;139(23):2613-2624. DOI:10.1161/CIRCULATIONAHA.118.036751 <<https://www.ahajournals.org/doi/10.1161/CIRCULATIONAHA.118.036751>>
6 https://foodinsight.org/2020-food-and-health-survey/
7 https://www.innovamarketinsights.com/sugar-reduction-hits-the-sweet-spot/
1. **What specific sweetener ingredients do you offer?**

Batory Foods is the leading ingredient distributor for the food & beverage industry with a complete line of sweeteners to meet the demands of growing market trends, concept developments and formulation challenges. Our sweetener portfolio includes nutritive sweeteners such as sugar (all forms), molasses, honey, crystalline fructose and an extensive range of corn sweeteners, to name a few. We also carry a large line of non-nutritive sweeteners that includes polyols such as erythritol and high-intensity sweeteners such as sucralose, stevia extracts and monk fruit. We offer sweetener innovations such as allulose and sweet potato syrup for functional sugar reduction formulations. With our broad portfolio of non-GMO, organic, plant-based, natural and standard sweeteners we have the breath of ingredients and technical knowledge to complement our customers’ growing businesses.

2. **What advancements and innovations do you offer – are their unique blends?**

We have a very broad product portfolio that includes specialty sweeteners to meet any of our customers challenges. This includes innovative ingredients such as allulose, a rare sugar that is 70% as sweet as sugar and only 10% of the calories. Unlike many other sweeteners on the market, allulose promises the same functional and sensory benefits (bulking, browning, mouthfeel) as sugar without contributing to added sugars on the nutrition label. We also have other exciting specialty sweeteners such as sweet potato concentrate (syrup), a clean-label sweetener replacement lower in sugar and glycemic index and higher in protein than brown rice syrup or honey, and other popular syrups used across many healthy snack food applications. These two innovations make for exciting, delicious products with reduced sugar and/or calories.

Batory also has multiple facilities to produce proprietary and custom blends in dry or liquid form in shipment sizes of full tanker loads, totes, bags, drums and pails. These blends are developed per customer request, market demand, or new product development.

3. **Do you offer formulation and product development expertise for flavor and product optimization?**

Batory has a strong technical history within the sweetener category. We have experts throughout the industry available to support formulators in their search for functional, clean-tasting sweeteners. To further leverage our history, we collaborate with strategic customers to develop or enhance their sweetener systems through the addition of innovative ingredients or scientifically developed blends.

4. **Do you have a supply chain story, and do you offer specific certifications (USDA Organic, non-GMO, etc)?**

Batory is there for our customers with coast to coast warehousing. We have facilities strategically located throughout the U.S. and in Mexico. All facilities are BRC “AA” approved and several are organically certified. All manufacturing sites are served by rail and are also supported by asset-based motor carriers. With 19 distribution centers across the country and more than 4,000 SKUs, we have the network, product movement and tools necessary to serve our customers.
Batory Foods offers a full spectrum of sweeteners and sweetener innovations including beet and cane sugars, liquid and dry corn sweeteners, high-intensity sweeteners, honey, brown rice syrup, tapioca syrup, polyols, molasses, allulose and more. Our experienced staff can provide just the right one for your formulation.

For more information or to order a sample today, visit batoryfoods.com or call 800.367.6975
1. What specific sweetener ingredients do you offer?

Cargill is a leading provider of sweetness solutions, providing customers with extensive expertise and a full range of sweetening options, including full, mid- and no-calorie products. Our portfolio includes caloric sweeteners made from sugar cane, sugar beets, corn, tapioca and wheat; polyols like Zerose™ erythritol; and a full-range of zero-calorie stevia products, including Truvia® and ViaTech® stevia leaf extracts and our newest offering, EverSweet™ stevia sweetener, made via fermentation.

2. What advancements and innovations do you offer – are their unique blends?

EverSweet™ stevia sweetener is the most recent addition to our sweetener portfolio. With EverSweet, we give food and beverage makers access to the best-tasting parts of the stevia leaf – Reb M and Reb D. However, rather than rely on the stevia plant, which only produces trace amounts of these sweet compounds, we use fermentation. The resulting zero-calorie sweetener delivers a more rounded taste profile with a faster onset of sweetness, enabling up to 100% sugar replacement. It’s a cost-efficient, great-tasting sweetener, produced with the environment in mind.

We also offer a broad portfolio of tapioca syrups, ideal for label-friendly formulation. Non-GMO by origin, Cargill’s tapioca syrups feature a full range of carbohydrate profiles and dextrose equivalent (DE) levels and include Certified Organic options. The resulting tapioca syrups perform nearly identically to their corn/glucose syrup equivalents, allowing one-to-one replacement with little to no additional formulation work.

3. Do you offer formulation and product development expertise for flavor and product optimization?

At Cargill, we have extensive resources to support customers with their food and beverage formulation and application work. Our state-of-the-art Food Innovation Centers are staffed by applications, technical services, and research and development experts who can help customers quickly find the right sweetening solution for their unique needs. We work with customers to understand their application, sweetening goals (including sugar and calorie reduction) and flavor SKUs. Then, drawing on our deep understanding of sweeteners and texturizers, we can help customers find the right products and concentrations to achieve their specific product development ambitions, often saving months of bench development time.

4. Do you have a supply chain story, and do you offer specific certifications (USDA Organic, non-GMO, etc)?

In today’s competitive marketplace, it’s no longer enough to create a great-tasting product. Increasingly, it’s the compelling story that captivates consumers. Ingredients can help brands build that story, whether it’s through sustainable sourcing practices, nutritional benefits like sugar reduction, or other compelling attributes, like non-GMO. Cargill can help brands create those narratives.

For example, we’ve been helping customers source non-GMO ingredients for nearly two decades. Today, we offer a market leading portfolio of non-GMO sweeteners and texturizers, including zero-calorie sweeteners like stevia leaf extract and erythritol.

We can also help brands achieve their broader sustainability ambitions. Consider our work with stevia. When Cargill first envisioned offering stevia as a commercial sweetener, no stevia supply chain of scale existed. We set out to build a world-class socially and environmentally responsible supply chain from the outset, and in the process, set the benchmark for responsible business practices in the stevia industry.
They’ll never guess there’s less.

From lifestyle trends, to healthy living, to labeling requirements, the momentum for reduced-sugar foods and beverages is increasing. But ultimately, taste triumphs at the cash register.

Work with an expert to win on both fronts.

As a global innovator in sugar reduction solutions, Cargill is uniquely positioned to help you achieve your goals.

• Full portfolio of ingredients for reducing sugar and enhancing sensory enjoyment, including EverSweet™ stevia sweetener, ViaTech® stevia leaf extract and Zerose® erythritol

• Leadership in technical applications to support new product development and reformulation

Partner with Cargill to benefit from proven application expertise and a reliable global supply chain.

Learn more and request a sample at www.Cargill.com/sugarreduction.
1 What specific sweetener ingredients do you offer?

Ingredion offers a broad range of sweetener solutions, from core sweeteners, including corn and tapioca syrups, to specialty products, including non-GMO sweeteners and ingredients which support sugar reduction strategies. Our sugar reduction portfolio includes products for sweetness replacement, as well as for building back functionality.

To answer the need for plant-based, high-potency sweetness when replacing sugar, we offer an end-to-end line of leaf-based stevia sweeteners, including Reb A and next-generation stevia products, which provide varying levels of sweetness intensities and flavor profiles. And because sweetness is not the only component to consider when replacing sugar, our portfolio includes ingredients such as allulose, low-sugar glucose syrups and polyols (such as erythritol) that can provide the functionality of sugar while helping reduce grams of sugar on labels.

2 What advancements and innovations do you offer, and are there unique blends?

Ingredion is continually advancing in the sweetness and sugar reduction space to keep our customers ahead in their markets and connected to consumer trends. For example, our unique stevia systems, including ENLITEN® Reb M and Reb D stevia leaf sweeteners and our lineup of ENLITEN® Fusion stevia sweeteners, offer a much-improved sweetness experience while optimizing costs. And with the sugar-like taste profile and functionality of our ASTRAEA® Allulose solution, customers can lower their products’ calorie counts while maintaining an indulgent eating experience. Other functional build-back advances include solutions such as our NUTRAFLORA® (scFOS) prebiotic fiber, ERYSTA® erythritol and VERSASWEET® low-sugar syrups, each bringing exciting benefits to your formulations while helping to reduce the grams of sugar on the label.

3 Do you offer formulation and product development expertise for flavor and product optimization?

Yes – this is one aspect of what sets Ingredion apart for formulators. In addition to our innovative sugar reduction portfolio, Ingredion customers can access our world-class sensory, formulation and applications capabilities, including the experts at our Ingredion Idea Labs® innovation centers, who are ready to help our customers create consumer-winning products and get them to market faster. Grounded in deep consumer insight, these unique formulation capabilities include DIAL-IN® Technology, a proprietary combination of sweetness and texture data, experience, and process to help you quickly formulate just-right sweetness, body and functionality in your products.

4 Do you have a supply chain story, and do you offer specific certifications (USDA Organic, non-GMO, etc.)?

Ingredion offers many of our sweeteners from non-GMO sources, including glucose syrups, dextrose, stevia and polyols, and we have recently published our commitment to sustainably source 100% of our corn, tapioca, potato, pulses and stevia by 2025.

With a supply chain that reaches across industries, the planet and everyday life, we understand that the choices we make as a company have an impact on all. This is why, as a company, we set our goals on the highest standards of safety and sustainability. With our three-pronged, 2030 All Life sustainability strategy, we’re safeguarding the well-being of our employees, customers and suppliers through Everyday Life; protecting and renewing the planet’s resources through Planet Life; and improving the lives of our growers and communities through Connected Life.
DISCOVER THE RIGHT SOLUTIONS FOR LESS SUGAR

Find the formulation secrets behind the reduced-sugar products consumers love.
Tap into Ingredion’s applications expertise and toolkit of sugar-reduction and functional build-back solutions to overcome your critical formulation challenges.

Find ideas to solutions ingredion.us/sugar-reduction-resources | 1-800-713-0208
1. What specific sweetener ingredients do you offer?

Techno offers a variety of specifications for Sucralose to suit the specific needs of sweetener in different industries. Techno Sucralose™ has solid and liquid form of product that are widely used in food, nutraceutical, pharmaceutical and personal care industry. For instance, Sucralose-Granular have better fluency compared with powder and create lesser dust, which improves the production environment. Sucralose – Micronized is suitable for products that require highly dispersed colloids and when use in paste form due to its tiny particle size (particle size 90% ≤ 12 µm). Sucralose Liquid Concentrate (25%) is aimed at overcoming the weakness of high-intensity sweeteners. Due to Sucralose's high intensity sweetness of 500-600 times more than regular sugar, this four times diluted liquid product is especially designed for measuring conveniences during application.

2. What advancements and innovations do you offer – are their unique blends?

Techno Sucralose™ strive for a higher standard, better quality which is safe and effective for our consumers and in return promote a higher product longevity in the market & sales value. Techno implements internal impurity control standards of which hydrolysis products and related substances are half of what is in FCC/USP/EC/EU standard. The impurities affect the product’s presentation and reliability, we hope to bring awareness for customer to understand that different quality of product can produce different value for customers.

3. Do you offer formulation and product development expertise for flavor and product optimization?

When using high-intensity sweeteners, users normally will encounter the following problems: 1.) high intensity sweetener can taste different than normal sugar or sucrose, as people usually take sucrose as a reference for sweetness 2.) Since having a high intensity of 600 times more sweetness, the amount of Sucralose to be use in application is relatively small and it lacks the bulk that is needed for certain cooking requirement. 3.) In baking, high intensity sweetener usually cannot be used alone to replace sugar due to the moisture, browning and rising effects that sugar can contribute to.

At Techno, our expert team can combine your product to provide a multi-component sweetener, which can achieve the taste to sugar as close as possible. We can provide you a sugar reduction plan to help you adapt to customer’s expectations and the government’s pressure on sugar content. In a good sugar-reduction formula, three important factors that need to be considered are tastes, calories, and profits. It is important to retain the original taste; reduce calories to meet the needs of consumers and companies can maximize their profits. If you need to choose the best sweetener formula to meet the balance of these three factors, contact Techno and our professional group can provide you with a good solution.

4. Do you have a supply chain story, and do you offer specific certifications (USDA Organic, non-GMO, etc)?

During the past 17 years of development, Techno has been committed to establishing a quality management system in accordance with international food safety production standards. From the procurement of raw materials to the supply chain of products to customers, there are complete and strict quality control standards. Food safety Production management has obtained BRC, SQF, AIB certificates. Our sucralose is certified Vegan & Halal with certification, and our fermentation product has also obtained Vegan certification to ensure quality and safety for human consumption.
Sucralose Quality Reliable

With 17+ years of Sucralose manufacturing experiences, we offer customizable solution for Nutraceutical products we offer Vegan, Bio-enzymatic and made from fermentation process

Sucralose:
- Powder
- Granular
- Micronized
- Liquid Concentrated

L-Tyrosine
R-Alpha Lipoic Acid
R-Alpha Lipoic Acid Sodium
Gamma Aminobutyric Acid

TECHNO FOOD INGREDIENTS

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Search among 1,300+ suppliers and their products, ingredients and services.
Food & Beverage Insider

Food & Beverage Insider leads CPG brands from ideation through manufacturing, supporting the development of clean label, natural and healthy food and beverage products. FBI provides in-depth data and analysis of the markets and is the source for the latest on ingredients, formulation, supply chain and regulatory issues affecting product innovation. As an official content provider for SupplySide and Food Ingredients North America (FiNA), FBI connects ingredient buyers and suppliers with executives across the health and nutrition marketplace.