Batory Foods takes the "guesswork" out of sugar replacement with five sweetener blends

02 Mar 2021 --- F&B manufacturers continue to struggle with reformulating recipes without sugar. Meanwhile, consumer expectations for taste, mouthfeel, texture and shelf life cannot be compromised.

(*All image credits: Batory Foods*)

Following the company's launch of five sucrose-replacing sweetener blends, Batory Foods' head of innovation and technical services Melissa Riddell shares her insights with ***NutritionInsight*** on the latest trends from the sugar replacement scene.

"It's important to understand that not all sweetener blends for sugar replacement are necessarily 'no added sugar,'" Riddell details. The term depends on sugar usage levels in F&B applications.

According to the US Food and Drug Administration (FDA), when manufacturers claim a food has "no added sugars," it cannot be processed with any sugar or sugar-containing ingredients. However, it may contain sugar alcohols and/or high potency sweeteners.

Blends may also contain bulking ingredients that have small levels of sugars. When the blends are used at the proper usage rates in applications, they do not contribute enough sugars to include on the nutrition panel.

"Tricky" no/low/reduced sugar claims

Data from Innova Market Insights reveals 91 percent of consumers are "at least a little" influenced by sugar reduction claims.

This demand for nutritious food with no sugar is driving sugar reduction market growth, according to Batory Foods. Strategies in this context vary and include complete sugar removal, blending of sugar with sweeteners and advances in sugar science.

Riddell suspects that changing preferences of "low/reduced sugar" claims are due to the changes in FDA labeling regulations of the Nutritional Panel to include "no added sugar."

The Batory Sweet Essentials line eliminates the need for manufacturers to reformulate recipes to offer lower sugar alternatives.

Added sugars became "mandatory nutrients" required to be declared when present in significant amounts. A labeled differentiation between "added sugars," for example from acidulants and flavors, and naturally-occurring sugars also became mandatory.

Meanwhile, Riddell refers to a citizen's petition from the Sugar Association last June, which asked the FDA to ensure the presence of alternative sweeteners and added sugar content in food is effectively communicated to consumers.

The Sugar Association argued at the time that "no/low/reduced added sugars" claims misleadingly imply that new products are healthier than the traditional versions of the foods.

"[The citizen's petition] also leads me to believe that there may still be some general confusion in the market around 'low/reduced sugar' claims where 'no added sugar' claims may appear more obvious to understand," says Riddell.

The Batory Sweet Essentials
Added sugars have functions beyond sweetness, such as flavor balance or preservation.

However, Batory Foods highlights that existing stand-alone sugar reduction and replacement ingredients, such as polyols, sugar alcohols, soluble fibers, high-potency sweeteners and rare sugars, often lack sufficient flavor, functionality and overall performance.

This can make them challenging to utilize during product development, which motivated the company's high-intensity sugar replacement portfolio launch.

The Batory Sweet Essentials comprises five formulations with varying degrees of sweetness equivalence compared to sucrose:

- B-Tru: Erythritol, allulose, stevia extract.
- B-Intense: Erythritol, allulose, steviol glycosides, stevia extract.
- B-Fiber: Erythritol, soluble corn fiber, allulose, stevia extract.
- B-Clear(E): Erythritol, steviol glycosides, stevia extract.
- B-Clear(A): Allulose, steviol glycosides, stevia extract.

The five blends ensure the closest functional match to sucrose across various applications, mindful there is "no one size fits all solution" for sugar replacement.

"Each blend contributes to the right level of browning, crystallization, freezing point depression, texture and mouthfeel as expected in a specified application when utilizing sucrose," Riddell explains.

There is no one size fits all solution to sugar replacement, according to Riddell.

While all five formulations are suitable for bakery, cereals and bars, chewing gum and dressings, B-Clear(A) targets syrups, dried cranberries and instant coffee and tea best.

Meanwhile, B-Fiber and B-Clear(E) are ideal for hard candies, but B-Tru, B-Intense and B-Fiber are best used in frozen dairy.

Targeting reformulation challenges
The blends were formulated to take the guesswork out of what can be a "very frustrating" sugar reduction and replacement process.

The challenge doesn't come in matching just sweetness. Sucrose contributes to browning as a result of caramelization, as well as color and pleasing aromas.

Sugar lowers the freezing point of ice cream, preventing the formation of large ice crystals making it smooth and easy to scoop.

The soft structure in baked goods is also affected. Gluten networks prevent doughs and batters from becoming rigid and tough.

"Once all of these [functions] have been considered, the formulator must continue to question what will happen with those ingredients over the product's shelf life. How will those ingredients interact over time? How will they respond to the environment and storage conditions?" Riddell reveals.

The Batory Sweet Essentials blends range in sweetness intensity from a one-to-one replacement with sucrose to three times sweeter. This is all while maintaining similar functionality to sucrose in applications to make "for extremely eased use."

Each blend is low on the glycemic index, keto-friendly and diabetic-friendly.

The future for added sugar?
There will always be a place for stand-alone sugar replacement ingredients and added sugar in food and beverages, maintains Riddell.

She predicts rare sugars like tagatose will follow a similar path as allulose this year as technology evolves.

Moreover, she also expects the reintroduction of sugars like isomaltulose due to its ability to sustain energy supply and support low glycemic indexes.

"Sugar contributes more than just a tremendous amount of needed functionality in application – it also provides indulgence, comfort and joy," Riddell highlights.

"These opportunities and emotions are what drive consumers to go back for more as a reminder of what makes us feel good, especially in a world where things have been so upside down for so many," she concludes.

By Anni Schleicher