

When bakeries cut sugar, what's left to gain?

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Source: Kerry

After the U.S. Food and Drug Administration (F.D.A.) finalized the Nutrition Facts Panel in 2016 with a new mandatory declaration of added sugars, the time of reckoning will soon be upon the baking industry. The new label comes out Jan. 1, and despite a recent six-month extension for compliance, many formulators of baked goods are still grappling with reducing sugar in their products so as not to fall prey to the added sugar callout.

The new labeling requirements are just one piece of the puzzle. Despite consumers' push for "real" ingredients, the vilification of sugar persists, and the added sugars line on the Nutrition Facts Panel will likely exacerbate it.

At the International Baking Industry Exposition (IBIE) held in September in Las Vegas, Corbion presented the results of its consumer research that focused on label-reading and purchasing habits.

After surveying 800 primary shoppers online and interviewing 15 in person, the company discovered that people intent on reading labels were hyper-aware of the label change for added sugars.

“What we saw was that, of those people who were likely to look at the labels, almost a third of them systematically called out that added sugar was something that would impact purchase intent,” said Marge O’Brien, senior manager, global insights, during a session at IBIE.

This trend toward avoidance isn’t new. In 2017, the Hartman Group’s health and wellness study indicated that unnecessary or “hidden” sources of sugar were of particular concern for their research participants. For example, 45% of respondents indicated trying to avoid or reduce refined sugar, and 48% said the same of artificial sweeteners.

This could leave many bakers stuck between a rock and a hard place in their formulations; consumers may be hating on sugar, but they’re not about to give up on the flavor and quality they expect from baked goods.

Meeting the demands of fickle consumers is complicated enough, but reducing sugar while balancing flavor and function requires peeling back several layers of challenges. Properly formulating for sugar reduction requires a holistic approach.

Know your audience

First, bakers must decide what direction to go when reducing sugar. That requires fully understanding the preferences of their core demographic.

“A lot depends on the customer base and what your consumer is wanting,” said Matt Gennrich, senior food scientist, Cargill. “If you’re more concerned about clean label, you’ll want to focus on natural replacements. But there are some products in which artificial sweeteners, high-potency sweeteners, might be acceptable for the consumer. It all boils down to what particular group of consumers your product is targeted to.”

Many suppliers can help bakers identify consumer needs and preferences, which help illuminate the formulating options.

“Once the consumer target is clear, it’s easier to reformulate successfully because we can fully understand the perception and expectations in that market,” said Deborah Waters, Ph.D., senior manager, bakery applications and enzymologist, Kerry Ingredients. “With the support of our consumer insights team, we can put forward several technical solutions, which can be price- and label-tiered, allowing customers to decide which approach works for them.”

Formulating for flavor

Even for those with the purest of health-and-wellness intentions, taste is king for consumers. This can make successful sugar reduction a tricky proposition, not only because flavor is one of sugar's primary roles but also because consumers immediately associate "reduced sugar" with diminished taste.

"The industry is still trying to get people to think of foods with less sugar as attractive-tasting and not 'better-for-you and just okay,'" said Alina Slotnik, vice-president of global marketing, PureCircle. "In many areas of food development, that paradigm of things that are better for you don't taste as well is finally getting challenged. But the transformation is still happening."

When bakers get the flavor right, there's a real payoff. According to ADM's "Outside Voice" consumer study, half of consumers said they would pay more for a product with less sugar if it delivered on the taste they expected.

"The major challenge is understanding how sucrose is perceived during eating compared with other sweeteners," Dr. Waters noted. "An early or lingering delivery of sweetness can be perceived negatively by the consumer."

Oftentimes it's easier to develop a new product with no perceived baseline, which inherently creates more flexibility.

"Rather, an overall balance must be achieved," she said. "This can be done using a range of flavor modulation technologies and natural flavors as well as using sugar substitutes."

Over the years, zero-sugar sweeteners have evolved through production efficiencies, making them more affordable than before, according to Joanne Wang, sweetener technical service customer solutions, Ingredion.

"In addition, bakers can achieve specific levels of sugar reduction at an optimized cost with stevia sweeteners tailored to provide a sugar-like taste at target usage levels," Ms. Wang said.

PureCircle's stevia products have also evolved, and that could change how consumers perceive the ingredient.

"The opportunity to deliver an exceptional taste experience with sugar reduction has been mixed," Ms. Slotnik said.

The newest generation of stevia achieves high levels of sweetness but with less aftertaste or linger, according to Matthew Jost, PureCircle's research and development chef, and can often stand alone on the flavor front.

"It's become a great solution without having all the other flavors added because of that," he noted.

Formulating for function

Sugar is a multi-faceted ingredient; sweetness isn't its only attribute. It's also quite functional in a formulation. So, bakers need to be cognizant of how they're reformulating so as not to create an accidental tradeoff.

"It would be nice if you could just remove sugar and replace it with a high-potency sweetener, but then you have all that bulk that you need to remedy," Mr. Gennrich said.

But sugar isn't just providing bulk.

"It's also contributing plasticity and flexibility to the dough or formula," Mr. Gennrich added. "And from a textural standpoint, it can also affect the crispness level of a product. Think about using granulated sugar versus liquid sugars: If you're using majority granulated sugar in a cookie, you'll have a more crispy product; if you're using majority corn syrup or liquid sugar, it's going to be softer."

These attributes are going to be impacted once a formula is redesigned for reduced sugar.

"If you take it out and don't replace it with anything, or you replace it with an ingredient that doesn't have those same characteristics, then you won't be as successful," Mr. Gennrich said.

Hanna Santoro, senior scientist, baking development and applications for ADM, noted that sugar substitutes like erythritol provide structure functionality.

"However, the need to replace bulk will exist for all high-potency sweeteners, and determining how bulk will be replaced is particularly important for sweet goods," she said.

She suggested identifying the bulk replacement first and then choosing the sweetening agent.

"If the profile still isn't quite right, we may also incorporate flavor modifiers to ensure the product has the right amount of perceived sweetness and that the right flavors are hitting the palate at the right time," she said.

Sugar also holds water well.

"Because of that, it helps reduce the water activity," Mr. Jost observed. "So, when you're reducing sugar, one of the biggest challenges can be shelf life."

Carolina Innovative Food Ingredients (CIFI) recognized that sweet potato has been gaining consumer attention for its healthy attributes and also works well for holding water.

“Carolina Sweet, our sweet potato-based clean label sweetener, is a value-added ingredient,” said Paul Verderber, senior vice-president of sales, CIFI. “It is a great solution for brands seeking ingredients with benefits such as natural sweetness and water-holding capacity.”

To get that proper balance of flavor and function, bakers will be hard-pressed to find one magic bullet.

This article is an excerpt from the November 2019 issue of Baking & Snack. To read the entire feature on sugar reduction, [click here](#).

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