



Finding chocolate's sweet spot

One of the most universally beloved treats, chocolate is inextricably linked with celebrations, indulgence and delight. But consumers also know it's a haven for sugar, with a typical milk-chocolate bar boasting 20-40 grams of the sweet stuff.

"Consumers state that sugar is the number-one ingredient they are aiming to avoid," noted Courtney LeDrew, a Senior Marketing Manager with Cargill. "They want to indulge – but the idea of 'permissible' indulgence, with a little less sugar, is one that is increasingly gaining a foothold."

LeDrew's observation is already evident at the retail level, with sugar-free chocolate sales outpacing traditional chocolate in both dollars and volume growth, according to Circana.¹ A wave of product innovation (and the associated uptick in items on the shelf) helps to explain the upward trajectory, with new product launches of chocolate products with sweetener claims up 8.5% in the last five years.² "Those numbers suggest that manufacturers – large and small – are leaning into this space," LeDrew said, but she worries that many of these new products may still fall short of consumers' sweet expectations.

The typical sugar-free chocolate is often accompanied by sweetness linger or flavor nuances not found in a conventional full-sugar offering. Formulators also have a hard time matching the creamy, indulgent mouthfeel consumers expect, settling for a texture more often described as dry and brittle. "These products may fill a void for consumers on sugar-restricted diets, but they leave plenty of room for improvement," LeDrew insists.

Smaro Kokkinidou, a Principal Scientist with Cargill, concurred with the assessment. "Many times, formulators will use traditional, stevia-based sweeteners, but they never quite hit the mark – especially if the goal is milk chocolate," she explained.

Historically, stevia-sweetened chocolate has more dark flavor notes and a little more bitterness, resulting in a flavor profile more akin to dark chocolate. Then there's the "cooling effect" challenge.

High-intensity sweeteners like stevia are used in exceedingly low quantities, leaving formulators to replace sugar's bulk with polyol sweeteners – typically maltitol or erythritol. "These are the workhorse bulking agents for chocolate formulations, but they both leave behind a 'minty fresh' cooling effect that isn't always desirable and can be hard to erase," Kokkinidou said.

A sweeter way

With these obstacles in mind, Kokkinidou's team set out to build a better no-sugar-added milk chocolate, leveraging Cargill's most-advanced sweetening system, EverSweet® stevia sweetener + ClearFlo™ natural flavor.



"We knew we could do better than what was currently in the marketplace simply because EverSweet + ClearFlo creates a more sugar-like experience and sweetness profile than traditional stevia sweeteners," Kokkinidou said. "What we were still learning then was just how much more the sweetening system could do."

Early in the prototype development, those benefits became clearer. From work in other applications, the Cargill team knew that EverSweet + ClearFlo would reduce the bitterness and sweetness linger often associated with stevia sweeteners. What was more surprising was its positive impact on mouthfeel and the extent of its flavor-modification capabilities.

"Not only did we create a no-sugar-added milk chocolate that actually tasted like milk chocolate, but it also had a more indulgent, creamy mouthfeel," Kokkinidou recalled.

Trained sensory panels affirmed Cargill's initial impressions. Compared to other no-sugar-added chocolates, they rated the prototype as creamier, more indulgent and detected fewer off flavors – including cooked milk notes, a common detracting flavor in dairy and chocolate products. The sweetening system even helped suppress the polyols' cooling effect, a common challenge in confectionery and bakery applications.

"We've only had positive feedback from customers – which speaks to just how impactful this sweetener system is," Kokkinidou noted. "When we add EverSweet + ClearFlo to the mix, the sensory benefits and its ability to resolve many of the issues that have historically challenged no-sugar-added chocolate are readily apparent."

That, says LeDrew, suggests a sweet result for everyone.

"Consumers want the best of both worlds. They still expect great taste and rich, creamy textures in their chocolate treats – but they're challenging brands to add another layer on top," she observed.

"EverSweet + ClearFlo makes it possible for brands to deliver on these competing expectations, bringing together sugar reduction and indulgence in ways that were previously impossible to achieve."

Create delightful, reduced-sugar sweetness with
EverSweet® stevia sweetener + ClearFlo™ natural flavor.

SOURCES:

¹ Circana, "Sugar Reduction Trends in Candy and Confectionery Products," September 2022.

² Innova Market Insights database, 2018–2022.

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