

No Single Answer

Finding the right combination of solutions for stevia-based formulations

According to a 2008 study by the North American Association for the Study of Obesity, 64% of adults are either overweight or obese; 26% are obese. Such statistics have fed the demand for calorie reduction in foods and beverages, and over the last year stevia—particularly rebaudioside A—has received significant attention as a natural, zero-calorie sweetener alternative. The material is extremely sweet, with a bitter aftertaste, which has necessitated masking and enhancing technologies. Yet, as Mariano Gascon, vice president of R&D at Wixon notes, “Not all stevia has been created equal.”

The stevia plant contains numerous compounds, including the previously mentioned rebaudioside A, which is the sweetest and least bitter of the sweet compounds. Unsurprisingly, it’s the most expensive. Gascon notes that there are so many variants on the market that when a customer says they are working with stevia he asks for a sample to assess, in order to choose the right masking-enhancer approach.

“There is not a single answer for stevia,” says Gascon. “It has a particular bitterness that is more pronounced the lower the grade.” In working on a stevia-based project, he notes that the best strategy may be to formulate with complementary flavors, employ taste modifiers such as bitter blockers, and/or mix with other sweeteners.



Mariano Gascon



Taste modifiers can be used, according to Gascon, to impart a “cleaner, less lingering sweet aftertaste and remove any bitterness.” Such improvements can make the formulation more cost-effective, even as the overall mouthfeel and sweet profile are enhanced. Wixon has launched its own stevia taste modifier under its Mag-nifique banner.^a The technology—intended for beverage and other categories—enhances sweetness and cuts down on the characteristic bitter aftertaste of the sweetener.

Despite that modifying stevia’s bitterness is relatively easy to accomplish, says Gascon, “You still face the fact that stevia, like every other alternative sweetener, is not sugar. How close do you want it?” Because the product is expensive and only about 200 times sweeter than sugar, Gascon says many customers choose to use it in combination with enhancers, including flavor ingredients, and sometimes other sweeteners only as a last resort. The goal is to both boost and round out the sweetness of the formulation. “Stevia has a synergistic effect with many enhancers,” says Gascon. “You can get more out of stevia.” The majority of the work at the bench involves bringing stevia closer to the impression of sugar. This work follows the pattern of development that came in the wake of previous sweetener launches such as aspartame and sucralose. Gascon notes that the amount of patent literature on this subject is remarkable; major beverage companies alone have filed endless variations.



^aMag-nifique is a trademark of Wixon.

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