



TACKLING TEXTURE AND SWEETNESS IN NUTRITION BARS

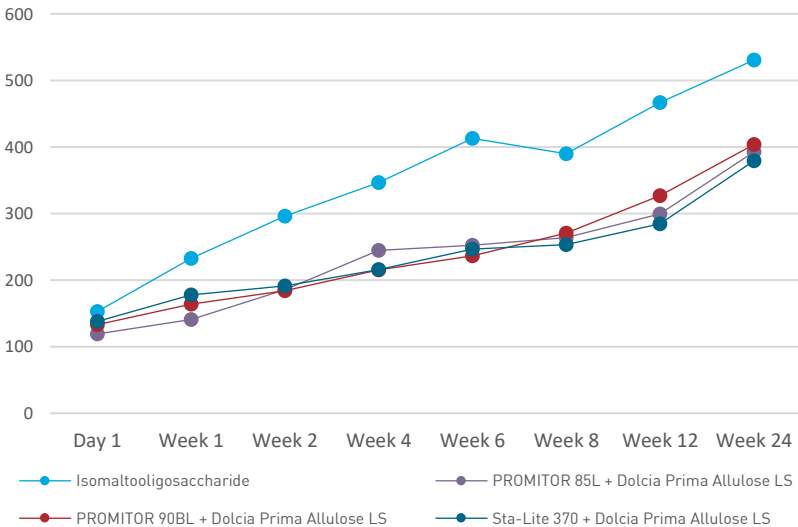
By Kristen Fierros, Sr. Scientist



Nutrition bars serve a primary role in consumer diets: convenient nourishment and satisfaction. However, there is a growing need for bars to have reduced sugar, calories, and carbohydrates to meet shifting consumer diets and lifestyle goals. This desire leaves many formulators with technical challenges on how to deliver the right nutritional profile with the same great taste and texture.

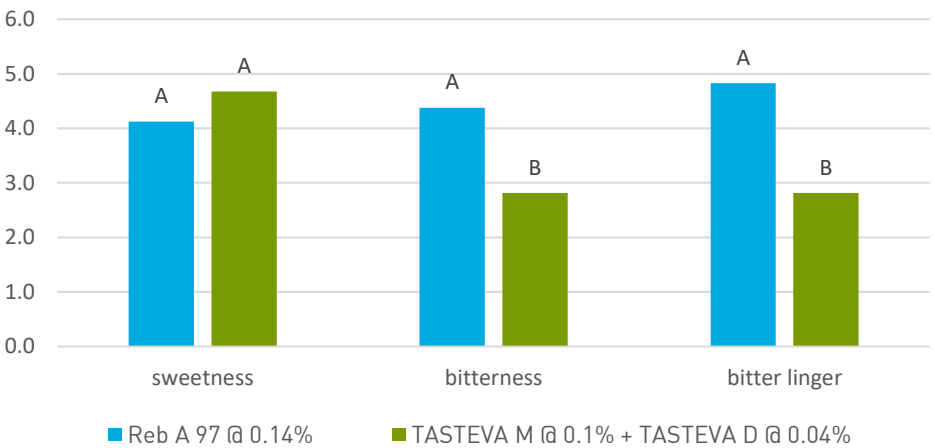
Sugar has multiple functions besides just sweetening; it acts as a plasticizing and softening agent and can contribute to soft texture in nutrition bars. Fiber syrups can be used in combination with allulose to achieve optimal texture and sugar and carbohydrate replacement. A combination of PROMITOR® Soluble Corn fiber OR STA-LITE® Polydextrose and DOLCIA PRIMA® Allulose syrup can offer a softer textured high protein bar over a six-month shelf life, compared to isomaltooligosaccharide (IMO).

Bar Hardness Over Time (g/time)



In addition to influencing texture, sugar delivers a delightful, sweet taste but there is a need to provide a nutrition bar with a clean, sweet taste without the calories. In a qualitative descriptive analysis sensory test, two bars were analyzed on a defined set of attributes. One protein bar was sweetened with 1400 ppm of Reb A stevia and the other was sweetened with a combination of TASTEVA® M and D. The protein bar with the optimal combination of TASTEVA® M and D performed statistically significantly better by reducing the bitterness and bitter linger that can be a drawback from sweetening with traditional Reb A stevia.

Protein Performance Bar Analysis



Tackling sugar reduction is no small feat, which is why I leverage a four-step process to assist our customers in optimizing sweetness, flavor and texture.

- 1

Understand current sugar source and total sweetness
- 2

Set your reduction target and understand functionality in the system
- 3

Leverage the full Tate & Lyle sweetener toolbox for sweetness equivalency
- 4

Optimize the formula to maintain texture and other sensory attributes

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