



Sugar free Cookies

Brief

Develop a “Sugar Free” Sweetener blend for substituting 22% Sugar in butter cookies with well balanced taste profile without any undesirable taste.

Solution

ArboEDGE DB01 was developed as a 1:1 Sugar Substitute sweetening solution to create sugar free butter cookies with a clean taste profile and great texture.

ArboEDGE DB01 is a high-performance Stevia based sweetener blend that was especially developed for use in energy drinks to substitute Sugar and other artificial sweeteners. It has been designed to deliver the following benefits:

- High quality sweetness from Stevia
- Ease of Substitution (1:1) in a wide range of Bakery Products
- Maintain the texture of the bakery products and well-balanced taste profile without any undesirable taste
- Clean label claims like “**Naturally Sweetened**”, “**100% Natural**”, “**No added sugar**”, “**Sugar free**” “**No Artificial Ingredients**”, “**No Artificial Sweeteners**”, “**Non GMO**” etc
- Enhanced functional claims like “**Low Glycaemic Index**”, “**Zero Calorie**” “**Enriched with Prebiotics**”



ArboEDGE 97+ is a proprietary blend comprising:

- 1) Natural Stevia Extracts
- 2) Natural Flavors

All the ingredients in the blend are 100% Natural, 100% Safe & Non GMO

ArboEDGE vs Sugar

Per 100 Grams	Sugar	ArboEDGE DB01
Calories (kcal)	400	53
Net Carbs (grams)	100	0
Glycaemic Index	65	<5
Carbohydrates (grams)	100	99.5
Natural	Yes	Yes
Prebiotic Fiber	No	Yes
Sweetness Factor (Sucrose Eqv)	1X	1X
Laxative Effects	No	No

Benchmarking Recipe

To test the taste and functional performance of the DB01 sweetening solution, we made cookies with the following overall composition with 22.5% Sucrose Equivalent Sweetness.

Recipe Ingredients	%
All Purpose Flour	46.8
ArboEDGE DB01	22.5
Butter (Unsalted)	28.5
Vanilla Extracts	2
Salt	0.2
TOTAL	100



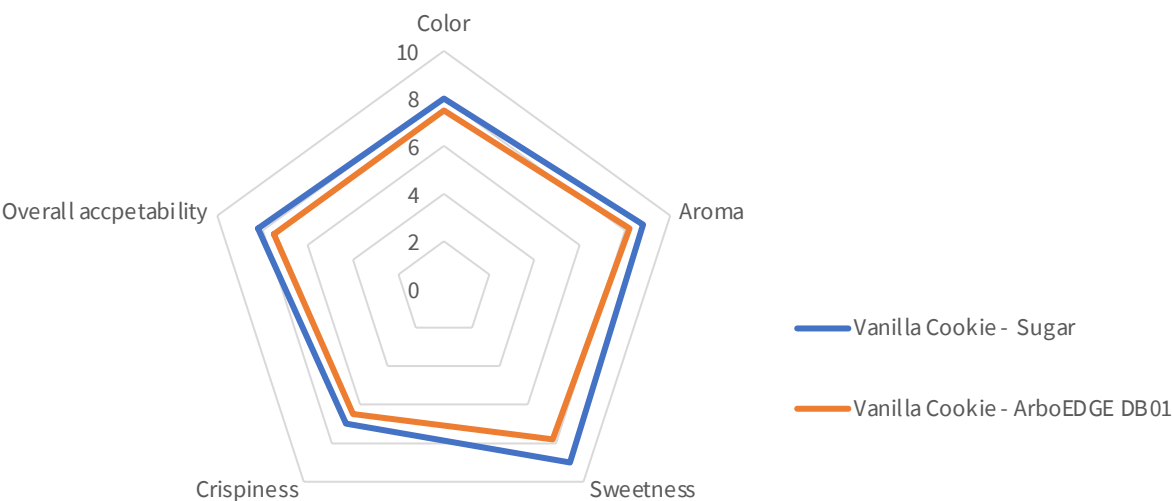
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Sensory Profile

2 variants of the cookies with the same composition except the sweetening solution were prepared and benchmarked against each other on various sensory attributes in taste trials by a trained panel of 10 individuals at Arboreal’s global application development centre and the following results were obtained:



Nutrition Profile

Cookies with Sugar (Before)

Nutrition Facts	
Serving size	(25g)
Amount Per Serving	
Calories	130
% Daily Value*	
Total Fat 6g	8%
Saturated Fat 0g	0%
Trans Fat 0g	
Cholesterol 0mg	0%
Sodium 0mg	0%
Total Carbohydrate 16g	6%
Dietary Fiber 2g	7%
Total Sugars 6g	
Includes 6g Added Sugars	12%
Protein 1g	2%
Vitamin D 0mcg	0%
Calcium 0mg	0%
Iron 0mg	0%
Potassium 0mg	0%

*The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.

Cookieswith Stevia (After)

Nutrition Facts	
Serving size	(25g)
Amount Per Serving	
Calories	110
% Daily Value*	
Total Fat 6g	8%
Saturated Fat 0g	0%
Trans Fat 0g	
Cholesterol 0mg	0%
Sodium 0mg	0%
Total Carbohydrate 16g	6%
Dietary Fiber 2g	7%
Total Sugars 0g	
Includes 0g Added Sugars	0%
Protein 1g	2%
Vitamin D 0mcg	0%
Calcium 0mg	0%
Iron 0mg	0%
Potassium 0mg	0%

*The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.

