



“Zero Calorie” Carbonated Beverage

BRIEF

Develop a “**Natural Sugar Free**” Sweetener blend for substituting 9-10% Sugar in carbonate beverage with well balanced taste profile without any undesirable taste

SOLUTION

ArboSYNERGY Z01 was developed as a Sugar Substitute sweetening solution to create a Zero calorie carbonated beverage with a clean taste profile

ArboSYNERGY Z01 is a high-performance Stevia based sweetener blend that was especially developed for use in carbonated drinks to substitute Sugar and other artificial sweeteners like Sucralose. It has been designed to deliver the following benefits:

- High quality sweetness from Stevia
- Maintain the Astringent profile of the carbonated drink 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 “**Zero Glycaemic Index**”, “**Zero Calorie**”

ArboEDGE

ArboSYNERGY Z01 is a proprietary blend comprising:

- 1) Natural Stevia Extracts
- 2) Natural Flavours

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

ArboSYNERGY vs SUGAR

PER 10 GMS	SUGAR	ArboSYNERGY Z01
Calories (kcal)	40	0
Net Carbs (grams)	10	0
Glycemic Index	65	0
Carbohydrates (grams)	10	0
Natural	Yes	Yes
Sweetness Factor (Sucrose Eqv)	1X	250X
Laxative Effects	No	No

BENCHMARKING RECIPE

To test the taste and functional performance of the ArboSYNERGY Z01 sweetening solution, we made Carbonated Beverage with the following overall composition with 10% Sucrose Equivalent Sweetness.

Steps:

- i. Take 0.031 grams of stevia blend in 100ml water
- ii. Add Orange flavour (0.15 grams), Acidity regulators [Citric acid (0.1 gram), Tartaric acid (0.05 grams)]
- iii. Homogenize this solution for 2-3 minutes at 800-1000 RPM
- iv. Keep this solution at 10 degrees temperature
- v. Carbonation- Carbonation was done using Mr. Butler Italia Soda Maker (6-8 press)



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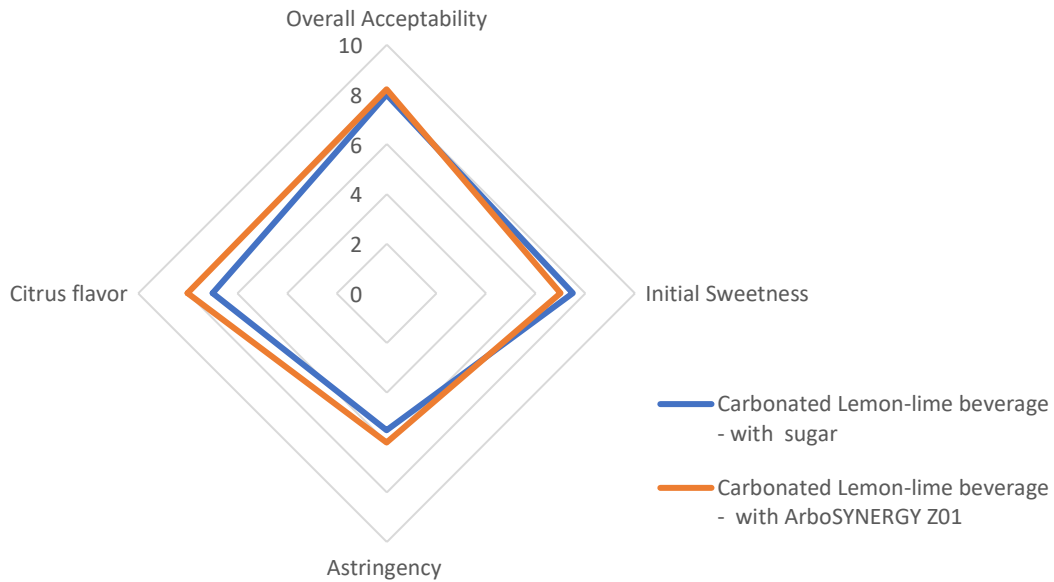
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SENSORY PROFILE

2 variants of the carbonated drink 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 20 individuals at Arboreal's global application development centre and the following results were obtained:



NUTRITION PROFILE

Carbonated Drink with Sugar (Before)

Nutrition Facts	
Serving size	1 (100ml)
Amount Per Serving	
Calories	40
% Daily Value*	
Total Fat 0g	0%
Saturated Fat 0g	0%
Trans Fat 0g	
Cholesterol 0mg	0%
Sodium 0mg	0%
Total Carbohydrate 10g	4%
Dietary Fiber 0g	0%
Total Sugars 10g	
Includes 10g Added Sugars	20%
Protein 0g	0%
<small>Not a significant source of vitamin D, calcium, iron, and potassium</small>	
<small>*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.</small>	

Carbonated drink with Z01 (After)

Nutrition Facts	
Serving size	1 (100ml)
Amount Per Serving	
Calories	0
% Daily Value*	
Total Fat 0g	0%
Saturated Fat 0g	0%
Trans Fat 0g	
Cholesterol 0mg	0%
Sodium 0mg	0%
Total Carbohydrate 0g	0%
Dietary Fiber 0g	0%
Total Sugars 0g	
Includes 0g Added Sugars	0%
Protein 0g	0%
<small>Not a significant source of vitamin D, calcium, iron, and potassium</small>	
<small>*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.</small>	

