



REDsugar

**Functional taste solutions for sugar
reduction in dairy products**
Bell Flavors & Fragrances

Get in touch with taste.

REDsugar: Functional taste solutions for sugar reduction in dairy products

Sugar reduction is one of the major topics of the food and beverage industry globally. Political restrictions, efforts by manufacturers to reduce the sugar content in their products, and consumers' increasing health awareness are encouraging reformulations, leading to a rising demand for sugar-reduced products, especially within the beverage, bakery, dairy and ice cream segments.

Growing aspirations for healthy food choices and increasing concerns on sugar intake are driving the food and beverage industry to respond with reformulation of products or new developments based on less or low sugar, natural ingredients and by substituting artificial sweeteners.

At the same time, governments have set up taxes on sugar-sweetened products, making reformulation inevitable in many countries around the globe.

The industry is therefore facing challenges, as successful products need to be adapted – with only slight compromises on taste being accepted by the consumers.

The challenge of sugar reduction



Changing consumer behaviour and growing concerns on sugar consumption are driving the growing need for reformulated products.

Over 50% of consumers worldwide are concerned about **sugar-related health issues**.

70% of global consumers find **sugar-related claims** on pack appealing.

Moderate consumption of confectionery and sweet beverages have become common.

Naturalness and simplicity are key – consumers are increasingly avoiding artificial sweeteners.

*All data based on Global Data consumer surveys.

With **indulgence** being consumers' top priority, sugar reduction creates challenges, esp. for soft drinks and sweet goods.

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Taste, texture and mouthfeel are consumers' top priority

In dairy products, such as milk shakes, sugar has a high impact on bulk and shelf life alongside taste, texture and mouthfeel.

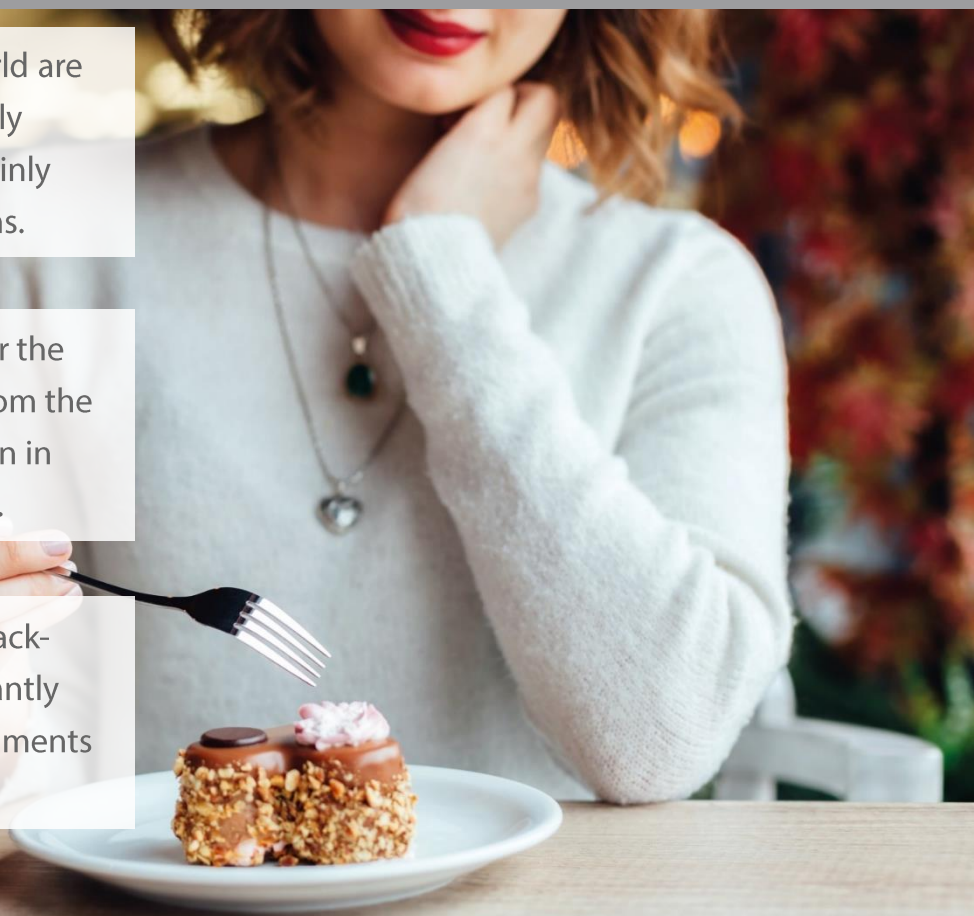
Reformulated, sensory appealing milk shakes using **less or no sugar** are therefore the **key to market acceptance**, as they meet current consumer needs and expectations.

New product developments based on reduced sugar content are on the rise

Consumers across the world are actively reducing their daily consumption of sugar, mainly because of health concerns.

In order to compensate for the gap of taste originating from the lack of sugar, reformulation in dairy products is essential.

Sugar-related claims on packagings are growing constantly across a wide range of segments and markets.



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Sugar reduction challenges in dairy products

Sugar plays a technological role in milk shakes and especially enhances the overall drinkability of the final product.

Substituting sugar and its complex properties requires reformulation to maintain e.g. texture and mouthfeel, but furthermore the characteristically sweet taste.

A product with solely reduced sugar content therefore will be perceived as less appealing.

What if.. less sugar is used in a dairy product formulation?

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- The characteristics in taste, especially sweetness and flavour can change significantly, even if sugar is only partially reduced.
 - Sugar supports creamy, fatty as well as caramellic notes: The milk shake will be perceived as less harmonic in its taste profile.
 - The lack of sugar may lead to a less appealing mouthfeel – It might be perceived as less rich.

A reformulation for closing the gap in taste, texture and mouthfeel needs to be obtained.

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We understand that every application requires different approaches in keeping the taste and the product appeal when reducing sugar.

We therefore applied our flavour house expertise in developing tailor-made flavour solutions that can be individually adapted to your specific needs, delivering intense, high-quality and satisfying product properties in dairy applications.

Bell's REDsugar product line comprises natural flavouring substances, delivering a positive impact on the sweet perception of dairy products.

REDsugar flavours comprise compositions of complex molecules delivering a positive impact on taste alongside texture and mouthfeel perception while especially sweetness of the final products is highlighted.

The sweet enhancing profile of Bell's **REDsugar** solutions can help to achieve at least **30% of sugar reduction** in certain applications.

Natural flavouring declaration assuring to be compliant with today's consumer expectations and clean label restrictions – no declaration as sweetener.¹

Functional solutions for reformulating dairy products to meet the encouragement of political frameworks.

Successfully tested in a variety of dairy taste profiles and applications with significant effects, especially in yoghurt and milk shakes.

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Application formula	Standard milk shake	Milk shake, -30% sugar
Ingredients	Quantity (g)	
Whole milk powder	14	14
Sugar	24	14
Xanthan gum	0,4	0,4
Modified rice starch	0,2	0,2
Maltodextrin	-	10
Cocoa powder for chocolate milk shake	3	3
Water	200	200
Bell's flavour in recommended dosage	x	x
	238,6 // 241,6	238,6 // 241,6

Sugars per 100 g (RTD):
Vanilla: 12,1 g
Chocolate: 12,0 g

Sugars per 100 g (RTD):
Vanilla: 8,2 g
Chocolate: 8,0 g

Manufacturing recommendation milk shake:

1. Mix all solid ingredients.
2. If desired, add cocoa powder for a chocolate milkshake.
3. Put the powder mix in a shaker.
4. Add 200 ml of cold water.
5. Shake well until all solids are dissolved.

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Vanilla milk shake, 100% sugar	
<p>1. Vanilla milk shake, 100% sugar</p> <p>0479269 Vanilla flavour powder</p> <p>Dosage: 0,40 : 100</p> <p>Declaration: Natural flavouring¹</p> <p><input checked="" type="checkbox"/> halal-conform, <input checked="" type="checkbox"/> kosher-conform, <input checked="" type="checkbox"/> palm oil free, <input checked="" type="checkbox"/> vegan/vegetarian, <input checked="" type="checkbox"/> allergen free¹</p>	<p>Notes:</p>
Vanilla milk shake, -30% sugar	
<p>2. Vanilla Milk Shake, -30% sugar</p> <p>0479269 Vanilla flavour powder</p> <p>Dosage: 0,40 : 100</p> <p>Declaration: Natural flavouring¹</p> <p><input checked="" type="checkbox"/> halal-conform, <input checked="" type="checkbox"/> kosher-conform, <input checked="" type="checkbox"/> palm oil free, <input checked="" type="checkbox"/> vegan/vegetarian, <input checked="" type="checkbox"/> allergen free¹</p>	<p>Notes:</p>

Flavour dosages relate to the final product.

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Vanilla milk shake, -30% sugar, +REDSugar building block	
<p>3. Vanilla milk shake,</p> <p>-30% sugar</p> <p>0479269 Vanilla flavour powder</p> <p>Dosage: 0,40 : 100</p> <p>Declaration: Natural flavouring</p> <p>5095000 REDsugar vanilla/caramell flavour powder</p> <p>Dosage: 0,17 : 100</p> <p>Declaration: Natural flavouring¹</p> <p><input checked="" type="checkbox"/> halal-conform, <input checked="" type="checkbox"/> kosher-conform,</p> <p><input checked="" type="checkbox"/> palm oil free, <input checked="" type="checkbox"/> vegan/vegetarian,</p> <p><input checked="" type="checkbox"/> allergen free¹</p>	<p>Notes:</p>

Flavour dosages relate to the final product.

¹Compliant with EU Food Law

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Chocolate milk shake, 100% sugar	
<p>4. Chocolate milk shake, 100% sugar</p> <p>0479513 Chocolate flavour powder</p> <p>Dosage: 0,20 : 100</p> <p>Declaration: Natural flavouring¹</p> <p><input checked="" type="checkbox"/> halal-conform, <input checked="" type="checkbox"/> kosher-conform, <input checked="" type="checkbox"/> palm oil free, <input checked="" type="checkbox"/> vegan/vegetarian, <input checked="" type="checkbox"/> allergen free¹</p>	<p>Notes:</p>
Chocolate milk shake, -30% sugar	
<p>5. Chocolate milk shake, -30% sugar</p> <p>0479513 Chocolate flavour powder</p> <p>Dosage: 0,20 : 100</p> <p>Declaration: Natural flavouring¹</p> <p><input checked="" type="checkbox"/> halal-conform, <input checked="" type="checkbox"/> kosher-conform, <input checked="" type="checkbox"/> palm oil free, <input checked="" type="checkbox"/> vegan/vegetarian, <input checked="" type="checkbox"/> allergen free¹</p>	<p>Notes:</p>

Flavour dosages relate to the final product.

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Chocolate milk shake, -30% sugar, +REDsugar building block	
<p>6. Chocolate milk shake, -30% sugar</p> <p>0479513 Chocolate flavour powder Dosage: 0,20 : 100 Declaration: Natural flavouring¹</p> <p>5095000 REDsugar vanilla/caramell flavour powder Dosage: 0,17 : 100 Declaration: Natural flavouring</p> <p><input checked="" type="checkbox"/> halal-conform, <input checked="" type="checkbox"/> kosher-conform, <input checked="" type="checkbox"/> palm oil free, <input checked="" type="checkbox"/> vegan/vegetarian, <input checked="" type="checkbox"/> allergen free¹</p>	<p>Notes:</p>

Flavour dosages relate to the final product.

YOUR PARTNER IN FLAVOUR EXCELLENCE

Excellent confectionery, baked goods and dairy products all are born from the marriage of enjoyment and functionality. Our motivation is to create irresistible flavour experiences that focus on lifestyle-driven consumer demands with the highest industrial requirements in mind. As a reliable partner, we develop innovative, high-quality concepts which appeal to every sense – from chocolatey, sweet creations to fresh and fruity confectionery combinations.



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