Lack of Calorie Reduction in Bakery Products with Sugars-Related Nutrient Content Claims in the Canadian Marketplace

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Introduction

- Nutrient content claims are statements or expressions which describe, directly or indirectly, the level of a nutrient or energy in a food or a group of foods[1]. They are meant to highlight key attributes in food products to help consumers make informed dietary choices.
- Consumers generally perceive products with claims related to lower sugars content as being healthier and lower in calories. Food manufacturers also use these claims to highlight reformulation efforts in response to consumer demands and government policies.
- By January 1st, 2026, prepackaged products sold in Canada that are high in sugars, sodium, and/or saturated fats are required to carry front-of-package (FOP) labels[3], which incentivize food manufacturers to reformulate products.
- Bakery products are a major contributor of dietary carbohydrate alongside other important nutrients. It is one of the product categories where sugars play a variety of functional roles and when sugars are removed or reduced, multiple substitution ingredients are often needed to maintain product taste, texture, or structure. Therefore, it is an important product category to assess sugars reformulation trends.

Purpose

- This study conducted a cross-sectional analysis of bakery products in the Canadian marketplace over the past 10 years regarding the use of sugars-related nutrient content claims (i.e., no added sugars, lower/reduced in sugars, sugar-free, and unsweetened), reformation strategies, and changes in macronutrient and energy content.

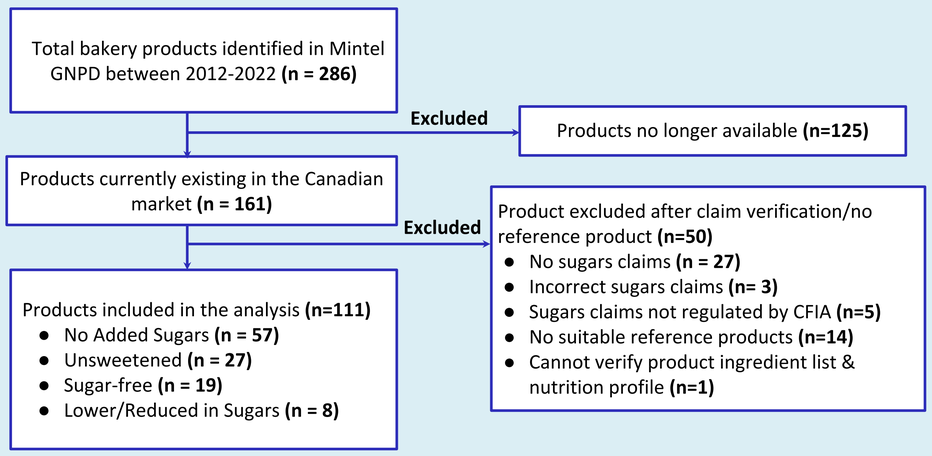
Methods

- Bakery products with sugars-related claims introduced into the Canadian market (2012 - 2022) were obtained from the Mintel Global New Product Database (GNPD). This category includes **1)** bread & bread products, **2)** cakes, pastries & sweet goods, **3)** savoury biscuits/crackers, **4)** sweet biscuits/cookies, and **5)** baking ingredients and mixes.
- Product availability in the current marketplace, and the use of the claims on the package was verified using manufacturers' or major food retailers' websites.
- Validity of the claims was verified, and their corresponding reference products were identified based on claim criteria specified by the Canadian Food Inspection Agency (CFIA)[1] and previously published methods[2].
- Claim and reference products were compared to determine reformulation strategies, and changes in energy, sugars, fibre, and carbohydrate content per 100 grams.
- Substitution ingredients used in the claim products and their respective baking functionalities were identified.

Results

1. A total of 286 bakery products were identified in Mintel GNPD between 2012 and 2022. A total of 111 products were included in our analysis, after excluding the ones that are no longer available by cross-referencing manufacturer/ retailer websites, the ones with no or incorrect sugars claims, and the ones without a suitable reference product,.

Figure 1. Mintel GNPD product screening flow chart.



Results

2. About 46% of bakery products with "no added sugars" claims, 85% of "unsweetened", 32% of "sugar-free" and 17% of "lower / reduced in sugars" claims had higher energy content compared to their corresponding reference products.

Figure 2: Scatter plots of % change in energy (E) [Positive—red dots; Negative—blue dots; No Change—green dots] against % change in sugars in four claim categories:

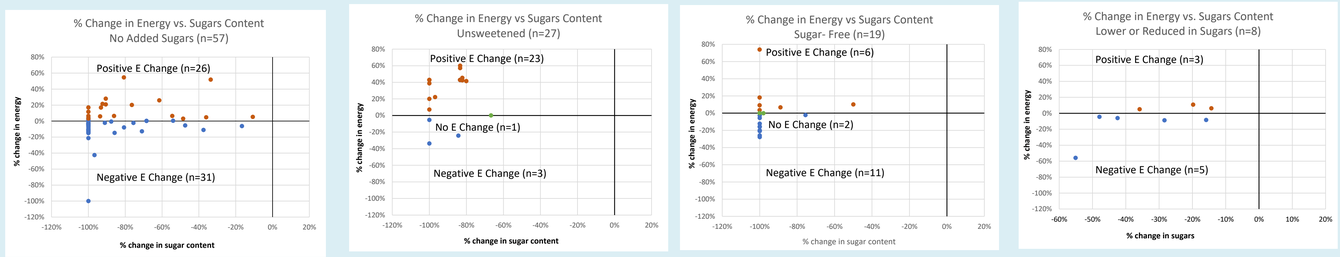


Table 1. Average changes (% and g per 100 g/mL product) in energy and key nutrient content of products as compared to their reference products.

	Sugars	Energy	Fibre	Carbohydrate	Fat	Comments
No Added Sugars (n=57)	-85% (-14.4 g/100g)	-1% (-7.2 kcal/100g)	68% (+2.4 g/100g)	-15% (-10.1 g/100g)	104% (3.8 g/100g)	The claim products with higher energy content generally had added starch, sugar alcohols, oils, or protein isolates as substitutes.
Unsweetened (n=27)	-87% (-38.1 g/100g)	32% (+150.2 kcal/100g)	78% (+6.5 g/100g)	-45% (-25.3 g/100g)	97% (28.3 g/100g)	Most claim products were baking ingredients such as unsweetened coconut and chocolate chips. The higher average energy content was due to a higher proportion of shredded coconut which has a higher energy density.
Sugar-Free (n=19)	-97% (-25.5 g/100g)	-2% (-9.5 kcal/100g)	258% (+9.1 g/100g)	-34% (-22.1 g/100g)	1.6% (11.9 g/100g)	Most claim products with higher energy content were featuring "**keto**" with added ingredients such as coconut oil, and seeds.
Lower / Reduced in Sugars (n=8)	-32% (-9.9 g/100g)	-8% (-40.8 kcal/100g)	238% (+6.7 g/100g)	-13% (-8.4 g/100g)	54% (1.0 g/100 g)	The claim products with higher energy content (n=3) also had higher fat content, which contributed to the energy difference.

3. Sugar alcohols, low-caloric sweeteners, fibre, and starch were the key substitution ingredients in sugars-claim products.

Table 2. Common substitution ingredients by category and their function roles.

Ingredient Category	Common Examples	Key Functional Roles	Claim Category
Sugar Alcohol	Erythritol, Maltitol, Sorbitol, Xylitol	Sweetening agents, Bulking	No Added Sugars, Sugar-Free, Lower/Reduced in Sugars
Low-caloric sweeteners	Stevia, Sucralose, Acesulfame potassium, Monk Fruit Extract	Sweetening agents	Sugar-free, Lower /Reduced in Sugars
Fibre	Inulin, Gum, Polydextrose	Bulking, Texture, Structure, Emulsifier, Stabilizer, Thickener	Sugar-Free, Lower /Reduced in Sugars
Starch	Wheat starch, Dextrin, Rice flour	Texture, Structure, Moisture retention, Gel formation	No Added Sugars, Unsweetened

Strengths & Limitations

Strengths

- This analysis using Mintel GNPD (updated in real-time) provides the most up-to-date Canadian marketplace data to track sugars reformulation efforts.
- It can serve as the baseline for tracking ongoing reformulation efforts for FOP regulations in bakery products with sugars claims.

Limitations

- Mintel GNPD does not remove retired products; therefore, manual verification was required to ensure that the products reflect current marketplace availability.
- The sugars claim categorization by Mintel was based on US definitions, which required further validation against CFIA criteria. For example, the "unsweetened" claim did not exist in the original GNPD and was re-categorized to reflect its Canadian application.
- Although every effort was made to identify a suitable reference product, certain claim products were compared to a reference product of a leading brand but from a different manufacturer. The differences in nutrition content between the claim and reference product may be the result of different recipes rather than product reformulation.

Conclusions

- There was a lack of energy reduction in over one third of bakery products bearing sugars-related claims despite various strategies to reduce sugars content, making these claims potentially misleading to consumers who expect such products to be lower in Calories.
- Consumers should look at the entire food package, including List of Ingredients, Nutrition Facts table, and nutrient content claims, rather than solely the sugars claim to better understand the complete nutrition profile and choose a product that meets their unique needs and preferences.
- Food manufacturers are also encouraged to reformulate products resulting in an improved calorie and nutrition profile rather than a single-nutrient focus.

References: 1. CFIA. Steps for making a nutrient-content claim. 2. Bernstein JT et al. 2017. Applied Physiol Nutr Metab. 3. Government of Canada. Front-of-package nutrition labelling.