Lack of Calorie Reduction in Breakfast Cereals with Sugars-Related Nutrient Content Claims in the Canadian Marketplace

Hora Wang¹, Abigail Clarke², Chiara DiAngelo¹, Sandra Marsden¹

¹ Nutrition Information Service, Canadian Sugar Institute, Toronto, ON; ² Applied Human Nutrition, Mount Saint Vincent University, Halifax, NS



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 foods¹. 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) labels³, which incentivize food manufacturers to reformulate products.
- Breakfast cereals 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 breakfast cereals 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), reformulation strategies, and changes in macronutrient and energy content.

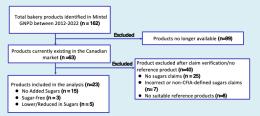
Methods

- Breakfast cereal 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 both cold ready-to-eat and hot cereals.
- 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 methods².
- 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 162 breakfast cereal products were identified in Mintel GNPD between 2012 and 2022. A total of 23 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

About 57% of the breakfast cereals with sugars-related daims had an increase or no change in kilocalorie content when compared to their corresponding reference products.

Figure 2: Scatter plots of % change in energy (Y-axis) [Positive red dots; Negative—blue dots] against % change in sugars (X-axis) in breakfast cereals with sugars claims.

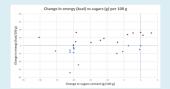


Table 1. Average changes (per 100 g product) in energy and key nutrient content of products as compared to their reference products.

	Sugars (g)	Energy(kcal)	Fibre (g)	Comments	
No Added Sugars (n=15)	-11.2	+8.5	+ 2.8	Sugars (e.g., brown sugar, cane sugar, fruit, molasses) and grains (e.g., oat bran, barley, oat fibre) replaced with wheat starch, flours, dried fruits.	
Sugar-Free (n=3)	-19.9	-21.6	+3.8	Sources of sugars (e.g., icing sugar, white sugar, brown sugar, fruit) were removed from the claim product and sources of fibre (e.g., wheat bran, millet, spelt) were added.	
Lower / Reduced in Sugars (n=5)	-7.1	-9.5	+1.2	Sugars (e.g., fruit, cane sugar, brown sugar, honey) and grains (e.g., barley, oat bran) were reduced or replace with soybean proteins, wheat flour, maple syrup, cornstarch, or rice in the claim products.	

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

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

Ingredient Category	Common Examples	Key Functional Roles	Claim Category
Starch	Wheat starch, Corn starch, Dextrin, Rice flour	Texture, Structure, Moisture retention, Gel formation	No Added Sugars, Unsweetened
Low-caloric sweeteners	Sucralose	Sweetening agents	Sugar-free, Lower /Reduced in Sugars
Fibre	Inulin, Guar Gum, Polydextrose	Bulking, Texture, Structure, Emulsifier, Stabilizer, Thickener	Sugar-Free, Lower /Reduced in Sugars
Dried fruits	Raisins, blueberry, cranberry, coconut	Sweetness	No Added Sugars
Natural flavour	Maple flavour, coconut flavour, vanilla flavour	Flavour	No Added Sugars

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. There may also be products not captured by the database.
- The sugars claim categorization by Mintel was based on US definitions, which required further validation against CFIA criteria.
- 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 recipies rather than product reformulation.
- Certain non-CFIA defined sugar claims were used, such as "sugar-wise" used in several ready-to-eat cereals, "lightly sweetened" in
 an oatmeal product. Even though these products had gone through sugar reformulation, we were unable to categorize them in our
 analysis due to unclear definition of these self-defined claims.

Condusions

- There was a lack of energy reduction in over half of breakfast cereals 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.
- Dietitians are best positioned to assist their clients and the public in understanding and evaluating the overall nutrition quality of
 products with sugar claims.