

MAKING THE NEW NUTRITION LABEL A REALITY: CHECKING IN AT THE CHECK-OUT

REGISTERED DIETITIANS



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Background

In December 2002, the Government of Canada released final regulations to make nutrition labelling mandatory on most pre-packaged foods, provide updated criteria for nutrient content claims and allow health claims on food labels and in advertising (1,2). A three-year transition period was allowed for most food manufacturers to comply with the new regulations and a five-year transition period was allowed for small businesses. In May 2005, additional regulatory amendments were proposed to help clarify some of the original requirements. These amendments are in the consultation stage and are expected final by year end 2006 (3).

Where are We Now?

As the three-year transition period draws to a close in December 2005, now is an opportune time to examine the progress in implementing the new nutrition labelling regulations. With more and more products displaying the new nutrition label on the grocery store shelf, it is important for health professionals, food manufacturers and government to advocate understanding and appropriate use of nutrition information on food labels to help consumers make informed choices. This article discusses some of the issues arising with making the new nutrition label a reality in the marketplace in an aim to support consumer education on nutrition labelling. The effects of nutrition labelling on consumer purchase behaviour and health are also discussed and some very new data on the consumer experience in this new marketplace of evolving nutrition information are provided.

The New Nutrition Label at a Glance



A number of resources are available as primers on the new nutrition label for health professionals (4-6) and consumers (7) and as implementation tools for food manufacturers (8,9). For ease of reference throughout this article, a sample Nutrition Facts table and other nutrition and ingredient information on food labels follows:

Nutrition Facts		
Serving 25 biscuits (59 g)		
Amount per serving	Cereal	With 1/2 Cup 2% Milk
Calories	210	270
	% Daily Value	
Fat 1 g†	2 %	6 %
Saturated 0 g		
+ Trans 0 g	0 %	8 %
Cholesterol 0 mg	0 %	3 %
Sodium 5 mg	0 %	3 %
Potassium 230 mg	6 %	12 %
Carbohydrate 49 g	16 %	18 %
Fibre 6 g		

The New Nutrition Label at a Glance

MINI-WHEATS

Original Frosted
cereal

Nutrient Content Claim

Forty-seven permitted claims and their criteria are specified in the nutrition labelling regulations and are based on serving size and reference amount, which are also specified in the regulations. Although consumers do not see reference amounts on food labels, these quantities are integral to nutrition labelling. Along with serving size they are used as a regulatory reference to determine nutrient content claims such as "fat free" or "low in saturated fat" and form part of the nutrition messages about a food. Nutrient content claims for vitamins and minerals are not part of the new regulations and remain based on serving size only.

- LOW FAT • TRANS FAT FREE
- HIGH SOURCE OF FIBRE
- NO ADDED SALT
- 100% WHOLE WHEAT BISCUIT
- GOOD SOURCE OF 9 ESSENTIAL NUTRIENTS

Nutrition Facts

Serving 25 biscuits (59 g)

Amount per serving	Cereal	With 1/2 Cup 2% Milk
Calories	210	270
	% Daily Value	
Fat 1 g†	2 %	6 %
Saturated 0 g + Trans 0 g	0 %	8 %
Cholesterol 0 mg	0 %	3 %
Sodium 5 mg	0 %	3 %
Potassium 230 mg	6 %	12 %
Carbohydrate 49 g	16 %	18 %
Fibre 6 g	24 %	24 %
Sugars 15 g		
Starch 28 g		
Protein 5 g		
Vitamin A	0 %	8 %
Vitamin C	0 %	0 %
Calcium	2 %	15 %
Iron	60 %	60 %
Vitamin D	0 %	25 %
Thiamin	90 %	100 %
Riboflavin	2 %	15 %
Niacin	15 %	20 %
Vitamin B ₆	20 %	25 %
Folate	15 %	20 %
Vitamin B ₁₂	0 %	25 %
Pantothenate	15 %	20 %
Phosphorus	15 %	25 %
Magnesium	20 %	30 %
Zinc	25 %	30 %

† Amount in cereal.

INGREDIENTS: WHOLE WHEAT, ICING SUGAR, GLYCERIN, GELATIN, VITAMINS (THIAMIN HYDROCHLORIDE, NIACINAMIDE, PYRIDOXINE HYDROCHLORIDE, FOLIC ACID, d-CALCIUM PANTOTHENATE), MINERALS (IRON, ZINC OXIDE), BHT ADDED TO PACKAGE MATERIAL TO MAINTAIN PRODUCT FRESHNESS.

Serving Size

A quantity of food that can be reasonably consumed at a single eating occasion is provided in household and metric measures. The labelled nutrition information on a food is based on this serving size. If consumers eat a different amount of the food, calculations are required to determine actual calories and nutrient amounts consumed.

% Daily Value

Reference standards for nutrition labelling are termed the "Daily Value" and are based on the 1983 *Recommended Nutrient Intakes* for vitamins and minerals (the highest recommended intake for each age/sex group not including pregnancy and lactation) and other dietary references for the other nutrients. Nutrient amounts in a labelled serving of a food expressed as a percentage of the Daily Value (% Daily Value) enables quick evaluations of the nutritional value of a food and comparisons among foods. These percentages are not appropriate for determining nutrient needs. Canadian and U.S. regulators have recognized the need to update the Daily Value labelling standards to reflect the new *Dietary Reference Intakes*.

Nutrition Facts Table

Information is mandatory on calories and 13 core nutrients.

Additional nutrients can be declared on an optional basis and declaration becomes mandatory if these nutrients are added to a food or a nutrient content claim is made.

Ingredient List

Ingredients in a food are listed in descending order by weight. Although not technically part of the new nutrition label, use of the ingredient list in conjunction with the Nutrition Facts table provides an indication of the sources of nutrients in a food. When an ingredient is listed on the Nutrition Facts table (e.g., sugar) the table provides the absolute amount of the ingredient in a food. When an ingredient is not part of the Nutrition Facts table (e.g., whole wheat) the ingredient list provides an indication the relative amount of the ingredient.



Over the past three years, food manufacturers have undertaken the formidable process of implementing the new nutrition labelling products; updating nutrient databases; managing existing label inventories; redesigning and printing millions of new labels; and, help to support consumer education on the new nutrition label.

Trans Fat Ingredients, Numbers and Claims - Do They Match Up?

Prior to the advent of the new nutrition label, consumers were encouraged to read the ingredient list for "hydrogenated" fats or oils as an indication of foods containing trans fat. Trans fat (g) and % Daily Value (saturated plus trans fat combined) are now mandatory on the Nutrition Facts table. However, confusion arises when ingredients listed as hydrogenated fats or oils contribute negligible amounts of trans fat such that the label declaration is rounded down to "0 g" and/or a "trans fat free" claim is made (trans fat is less than 0.2 g and a food also qualifies as "low in saturated fat"). To help consumers with this potential misunderstanding, it is important to be aware of the regulations allowing rounding to "0 g" and declaring "free" claims for nutrient levels so small that health experts consider the amounts to be nutritionally insignificant.



Two Scoops[®] Raisin Bran cereal

- VERY HIGH IN FIBRE
- LOW FAT
- NO PRESERVATIVES
- GOOD SOURCE OF 9 ESSENTIAL NUTRIENTS

Nutrition Facts		
Serving 1 cup (55 g)		
Amount per serving	Cereal	With 1/2 Cup 2% Milk
Calories	180	250
% Daily Value		
Fat 1 g†	1 %	5 %
Saturated 0 g	0 %	8 %
+ Trans 0 g		
Cholesterol 0 mg	0 %	3 %

INGREDIENTS: WHOLE WHEAT, RAISINS, (COATED WITH SUGAR, HYDROGENATED VEGETABLE OIL), WHEAT BRAN, SUGAR/GLUCOSE-FRUCTOSE, SALT, MALT (CORN FLOUR, MALTED BARLEY), VITAMINS (THIAMIN HYDROCHLORIDE, PYRIDOXINE HYDROCHLORIDE, FOLIC ACID, d-CALCIUM PANTOTHENATE), MINERALS (IRON, ZINC OXIDE).

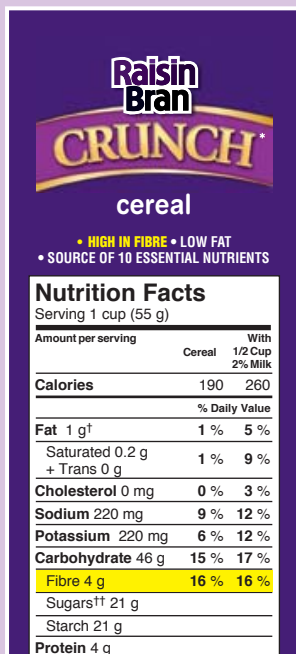


French Toaster Stix Original

32 Sticks (8 Slices)

Nutrition Facts		
Valeur nutritive		
Serving 2 slices (90 g)		
Par portion de 2 tranches (90 g)		
Amount per serving		% Daily Value
Teneur par portion		% valeur quotidienne
Vitamin A / Vitamine A		2 %
Vitamin C / Vitamine C		0 %
Calcium / Calcium		6 %
Iron / Fer		10 %

When Rounding Rules Do Not Compute

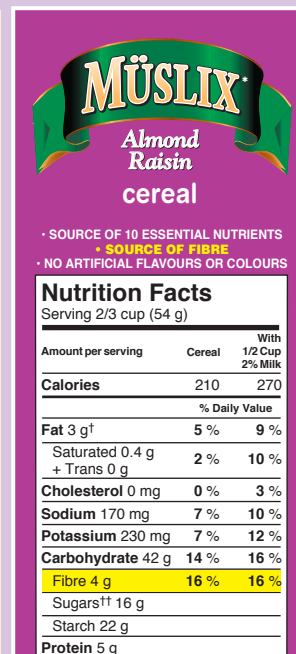


Raisin Bran CRUNCH cereal

- HIGH IN FIBRE • LOW FAT
- SOURCE OF 10 ESSENTIAL NUTRIENTS

Nutrition Facts		
Serving 1 cup (55 g)		
Amount per serving	Cereal	With 1/2 Cup 2% Milk
Calories	190	260
% Daily Value		
Fat 1 g†	1 %	5 %
Saturated 0.2 g	1 %	9 %
+ Trans 0 g		
Cholesterol 0 mg	0 %	3 %
Sodium 220 mg	9 %	12 %
Potassium 220 mg	6 %	12 %
Carbohydrate 46 g	15 %	17 %
Fibre 4 g	16 %	16 %
Sugars†† 21 g		
Starch 21 g		
Protein 4 g		

Rounding rules in the new regulations outline how to round nutrient values for declaring the values on the Nutrition Facts table. Rounding rules impact nutrient content claims because nutrient values are rounded before applying the % Daily Value, which can result in foods with the same declared level of a nutrient qualifying for different nutrient content claims. In these examples, two cereals declare 4 g fibre (16% Daily Value); however, one cereal is a "high source" of fibre because the fibre content is just over 4 g (rounded down to 4 g) and the second cereal is a "source" of fibre because the fibre content is just under 4 g (rounded up to 4 g). Simple explanations about rounding rules could support consumer understanding of such discrepancies and help them make food choices based on the nutrient content of a food.



MÜSLIX Almond Raisin cereal

- SOURCE OF 10 ESSENTIAL NUTRIENTS
- SOURCE OF FIBRE
- NO ARTIFICIAL FLAVOURS OR COLOURS

Nutrition Facts		
Serving 2/3 cup (54 g)		
Amount per serving	Cereal	With 1/2 Cup 2% Milk
Calories	210	270
% Daily Value		
Fat 3 g†	5 %	9 %
Saturated 0.4 g	2 %	10 %
+ Trans 0 g		
Cholesterol 0 mg	0 %	3 %
Sodium 170 mg	7 %	10 %
Potassium 230 mg	7 %	12 %
Carbohydrate 42 g	14 %	16 %
Fibre 4 g	16 %	16 %
Sugars†† 16 g		
Starch 22 g		
Protein 5 g		

New Nutrition Label to Consumers

1 labelling regulations. Activities have included: interpreting the regulations; determining impacts on existing products; reformulating products; and, helping consumers understand and use the new label. Exploring some of the challenges that have arisen in this process can

To Be or Not To Be a Nutrient

Nutrient contributions from food additives must be counted as part of the % Daily Value declared on the Nutrition Facts table; however, these contributions cannot count toward the level for a vitamin or mineral nutrient content claim if a food does not qualify for fortification with the nutrient. For example, a food containing 6% of the Daily Value for calcium could not qualify as a "source of" calcium if more than 1% of the Daily Value for calcium were contributed by food additives such as calcium salts in leavening agents such as baking powder. From the perspectives of nutrient bioavailability and analytical testing, these distinctions on nutrient sources are not evident. It is a communication challenge to explain why foods are not claimed as sources of nutrients (based on % Daily Value) when food additive nutrients contribute to the nutrient content to meet a Daily Value claim criterion, particularly in view of educational messages using % Daily Value as an indication of the nutritional value of a food.

INGREDIENTS: WATER, FLOUR, FRUCTOSE, LIQUID WHOLE EGG, VEGETABLE SHORTENING, MODIFIED MILK INGREDIENTS, SUGAR, BAKING POWDER, SALT, COLOUR.



Do We Eat Density Criterion Amounts?

For foods with reference amounts of 30 g or less, "low fat," "low cholesterol" and "low sodium" content claims are based on a 50 g "density criterion" in addition to serving size and reference amount criteria. With no changes to product formulas and serving sizes, some single serving foods no longer qualify for these claims due to the new density criterion. For example, a 22 g cereal bar containing 2.5 g fat qualified as "low fat" (less than 3 g) prior to the new labelling regulations, whereas the same 22 g bar is no longer "low fat" because 50 g (or 2-1/4 bars) contain 5.7 g fat. Portion control is a key message in obesity and the development of single packaged foods with smaller serving sizes is one way to help address this issue, yet claim ineligibility due to the density criterion could discourage this development.

RICE KRISPIES SQUARES BARS

Original

- TRANS FAT FREE • LOW SATURATED FAT
- SOURCE OF 4 ESSENTIAL NUTRIENTS
- SANS GRAS TRANS • PAUVRES EN GRAS SATURÉS
- SOURCE DE 4 ÉLÉMENTS NUTRITIFS ESSENTIELS

Nutrition Facts Valeur nutritive

Per 1 bar (22 g)
pour 1 barre (22 g)

Amount Teneur	% Daily Value % valeur quotidienne
Calories / Calories 90	
Fat / Lipides 2.5 g	4 %
Saturated / saturés 0.3 g	2 %
+ Trans / trans 0 g	
Cholesterol / Cholestérol 0 mg	0 %
Sodium / Sodium 105 mg	4 %
Potassium / Potassium 10 mg	0 %
Carbohydrate / Glucides 17 g	6 %
Fibre / Fibres 0 g	0 %
Sugars / Sucres 8 g	
Starch / Amidon 9 g	
Protein / Protéines 1 g	

The Whole Whole Grain Story

Whole grain foods and ingredients can be valuable sources of nutrients, including fibre, vitamins, minerals, polyunsaturated fatty acids and a host of phytochemicals. These nutrients and the relatively low fat profile of whole grains contribute to their positive attributes and association with chronic disease prevention. The fibre component studied as part of the whole grain or in isolation also has been specifically associated with many of the benefits of whole grains (10). A useful marker for the whole grain content of a food is to read the ingredient list for "whole" grain ingredients in conjunction with the Nutrition Facts table for fibre content. Foods containing at least 4 g of fibre can claim "high source" of fibre and choosing such whole grain foods more often can contribute to whole grain and fibre intakes at the same time.

ALL-BRAN*
BRAN FLAKES
cereal

- HIGH IN FIBRE • LOW FAT
- SOURCE OF 9 ESSENTIAL NUTRIENTS
- NO PRESERVATIVES
- SOURCE ÉLEVÉE DE FIBRES
- PAUVRES EN GRAS
- SOURCE DE 9 ÉLÉMENTS NUTRITIFS ESSENTIELS
- SANS AGENTS DE CONSERVATION

Nutrition Facts Valeur nutritive

Serving 1 cup (34 g)
Portion de 1 tasse (34 g)

Amount per serving Teneur par portion	Cereal Céréales	With 1/2 Cup 1% Milk Avec 1/2 tasse de lait 1%
Calories / Calories	110	170
	% Daily Value / % valeur quotidienne	
Fat / Lipides 0.5 g†	1 %	3 %
Saturated / saturés 0 g	0 %	4 %
+ Trans / trans 0 g		
Cholesterol / Cholestérol 0 mg	0 %	2 %
Sodium / Sodium 290 mg	12 %	15 %
Potassium / Potassium 180 mg	5 %	11 %
Carbohydrate / Glucides 27 g	9 %	11 %
Fibre / Fibres 5 g	20 %	20 %
Sugars / Sucres 4 g		
Starch / Amidon 17 g		
Protein / Protéines 4 g		

INGREDIENTS: WHOLE WHEAT, WHEAT BRAN, SUGAR/GLUCOSE-FRUCTOSE, SALT, MALT (CORN FLOUR, MALTED BARLEY), VITAMINS (THIAMIN HYDROCHLORIDE, PYRIDOXINE HYDROCHLORIDE, FOLIC ACID, d-CALCIUM PANTOTHENATE), MINERALS (IRON, ZINC OXIDE).



The effects of nutrition labelling on consumer purchase behaviour and health are confounded by many complex factors that drive purchase behaviour and influence health. An upsurge in the research in this area occurred in the United States after implementation of the *Nutrition Labeling and Education Act of 1990* (NLEA). A more recent review of studies of consumer understanding and use of health claims has concluded consumers find health claims useful, agree they should be approved by government, do not make clear distinctions between health claims and other labelling claims and prefer succinct, simple statements (11). Yet it remains that the causal relationship between food labels and diet choices is not well understood (12).

Learning from U.S. Nutrition Labelling

After more than a decade of mandatory nutrition labelling in the United States, the Food and Drug Administration (FDA) has proposed changes to increase the prominence of calories and declare various portion sizes on U.S. food labels (13,14). This activity has been undertaken in response to recommendations of the Obesity Working Group, which was created by FDA to develop an approach for enhancing and improving food labels to help consumers prevent weight gain and reduce obesity. Despite a recent global food labelling survey from ACNielsen showing that Americans rated themselves highest (65%) at understanding nutrition information on labels and Canadians came in third at 61% (15), there is room for improvement in consumer use of the information. As mandatory nutrition labelling is unfolding in Canada, there are opportunities to learn from the U.S. experience with calories and serving sizes and help Canadians translate their understanding and use of food label information into positive health behaviours.



First Canadian Data are Emerging

Although it is too soon to assess direct impacts of the new nutrition label in Canada, some emerging data are available. The same ACNielsen global food labelling survey has reported most Canadians focus on label listings of fat and trans fat (16). This survey was conducted in April and May 2005 and provides some early marketplace data. An internal Kellogg global nutrition study conducted in November 2004 and July 2005 has similarly indicated Canadians are paying attention to fat and trans fat. When asked about fat consumption over the past six months, 55% and 58% of consumers reported a decrease in consumption in 2004 and 2005, respectively; and results for the same question on trans fat were 39% and 43%, respectively. With regard to awareness, the biggest increase was also for trans fat, which showed a 10% increase from 2004 to 2005 compared with increases ranging from 2-4% for awareness on childhood obesity, genetically modified foods and saturated fat. Although these general survey findings cannot be causally attributed to the new nutrition label, their collection at the same time as the marketplace growth of the new label can lead to some speculation on the partial influence of the new label in addition to other concomitant events.

To investigate the impact of the new nutrition label before and after implementation of the new regulations, Kellogg Canada Inc. consumer nutrition contacts from 2000 to 2005 were examined. The abnormally high fibre contacts in 2000 likely reflected promotional campaigns in that year and the spike in carbohydrate contacts in 2002 could be explained by the emerging Atkins diet craze. Otherwise, contacts on nutrition labelling and all nutrients generally increased from 2003 to 2004 or 2005. Total fat contacts showed the biggest increase and this focus is consistent with results from the previous general global surveys from ACNielsen and Kellogg. Although these findings reflect the complex interaction of various drivers of consumer behaviour, marketplace implementation of the new nutrition label should be included in the mix of influences.

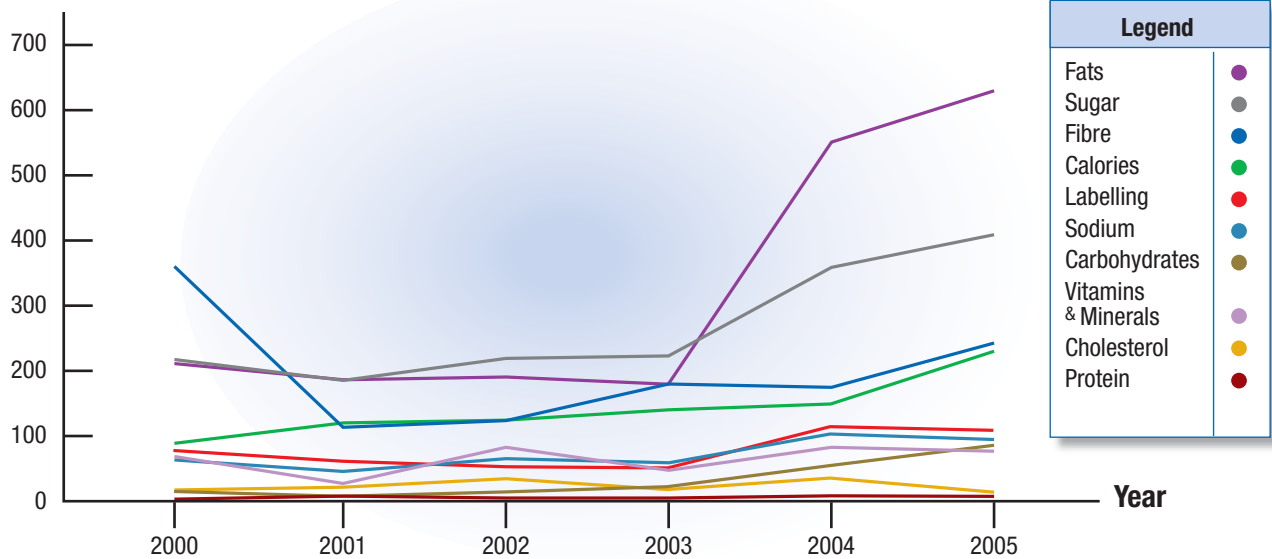
How often do you check food labelling for the content of:	Checks "Regularly" (%)		Canada's Rank In 38 Markets Surveyed
	Canadian Respondents	Global Respondents	
Fat	56	49	Tie 4 th
Trans Fat	49	24	1 st
Sugar	45	42	Tie 12 th
Calories	42	43	Tie 21 st
Salt / Sodium	35	26	Tie 7 th
Carbohydrates	32	28	Tie 12 th
Protein	32	28	Tie 12 th
Fibre	27	27	18 th

Adapted from (16) by showing results only for nutrients listed on the new nutrition label



Kellogg Canada Inc. Nutrition Contacts from 2000 to 2005

Number of Contacts



Helping to Promote Consumer Understanding

A common finding on consumer understanding and use of nutrition labels from earlier studies addressing the U.S. NLEA and recent international reviews is consumers prefer and do better with simple information (11,17-19). In a mall intercept study, investigators have reported most participants could accurately compare foods and evaluate nutrient level claims (78% and 58%, respectively); however, a much lower 20% of participants were able to calculate the contribution of a food to the daily diet (18). In a more recent review, other researchers have similarly concluded consumers are able to retrieve basic nutrition labelling information and make simple calculations to compare foods; however, confusion arises in interpreting label values for viewing nutrient contributions and foods in a total diet context (19).

As the new nutrition label becomes a marketplace reality in Canada, nutrition communicators can learn from the U.S. experience and ensure education efforts involve simple messages focussed on helping consumers use nutrition labelling information in the broader context of healthy eating. Although nutrition labelling alone cannot solve nutrition problems, it is an integral element of nutrition education, policy and promotion.

Acknowledgements

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