

# **2008 Marketplace Survey Comparing Nutrient and Ingredient Information on Food Product Packaging with Information Provided Online by Food Manufacturers**

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# Introduction

- Food manufacturers have begun providing nutrition information online
  - Nutrient composition
  - Ingredient information



**Ingredients:** Whole Corn, Corn Oil, Salt, Cheddar Cheese (Milk, Cheese Cultures, Salt, Enzymes), Buttermilk Solids, Whey Protein Concentrate, Whey, Tomato Powder, Monosodium Glutamate, Romano Cheese (Part-Skim Cow's Milk, Cheese Cultures, Salt, Enzymes), Onion Powder, Wheat Flour, Natural and Artificial Flavor, Partially Hydrogenated Soybean and Cottonseed Oil, Artificial Color (Including Yellow 6 Lake, Yellow 5 Lake, Yellow 6, Red 40 Lake), Sugar, Garlic Powder, Disodium Phosphate, Dextrose, Parmesan Cheese (Part-Skim Milk, Cheese Cultures, Salt, Enzymes), Spice, Citric Acid, Lactic Acid, Disodium Inosinate, and Disodium Guanylate.  
**CONTAINS MILK AND WHEAT INGREDIENTS.**

<b>Nutrition Facts</b>			
Serving Size 1 oz.			
Amount Per Serving			
<b>Calories</b> 120		Calories from Fat 30	
		% Daily Value*	
<b>Total Fat</b>	3.5g		<b>6%</b>
Saturated Fat	0.5g		<b>3%</b>
Polyunsaturated Fat	2g		
Monounsaturated Fat	1g		
Trans Fat	0g		
<b>Cholesterol</b>	0mg		<b>0%</b>
<b>Sodium</b>	220mg		<b>9%</b>
<b>Total Carbohydrate</b>	21g		<b>7%</b>
Dietary Fiber	2g		<b>7%</b>
Sugars	1g		
<b>Protein</b>	2g		
Vitamin A	2%	Vitamin C	0%
Calcium	4%	Iron	2%
Vitamin E	2%	Thiamin	4%
Niacin	2%	Vitamin B6	6%
Phosphorus	6%	Zinc	2%
* Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs:			
	Calories:	2,000	2,500
Total Fat	Less than	65g	80g
Sat Fat	Less than	20g	25g
Cholesterol	Less than	300mg	300mg
Sodium	Less than	2,400mg	2,400mg
Total Carbohydrate		300g	375g
Dietary Fiber		25g	30g
Calories per gram:			
Fat	9	Carbohydrate	4
		Protein	4



# Objectives

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1. Determine the prevalence of online nutrient and ingredient information for savory snacks and cookies.
2. Examine the comparability of online nutrient and ingredient information provided online versus on product packaging.

# Methods

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- A cross-sectional survey of products from two food categories, savory snacks and cookies, was conducted.
- The sample was collected from a Wal-Mart Supercenter in the Minneapolis-St. Paul, MN metro area using a systematic selection process with the goal of sampling at least 40 products from each category.
- An internet search engine was used to find and print nutrient composition information and ingredient information from manufacturer websites.
- The nutrient composition information and the ingredient information from the manufacturer websites was compared with that on the product label.

## Product Label

Enriched flour (wheat flour, niacin, reduced iron, thiamin mononitrate {vitamin B1}, riboflavin {vitamin B2}, folic acid), **vegetable oil (soybean, palm and palm kernel oil with TBHQ for freshness)**, semisweet chocolate (sugar, chocolate, cocoa butter, soy lecithin, natural and artificial flavor, salt), **sugar**, high fructose corn syrup, **chocolate flavored drops (sugar, partially hydrogenated palm kernel oil, cocoa processed with alkali, sorbitan monostearate, polysorbate 60, soy lecithin, salt, artificial flavor)**, modified corn starch, date paste, contains two percent or less of molasses, salt, baking soda, natural and artificial flavor, egg, soy lecithin, annatto color, whey.

## Online Information

Enriched flour (wheat flour, niacin, reduced iron, thiamine mononitrate {vitamin B1}, riboflavin {vitamin B2}, folic acid), **partially hydrogenated vegetable oil (soybean, cottonseed and/or palm kernel oil)**, **sugar**, semisweet chocolate (sugar, chocolate, cocoa butter, **dextrose**, soy lecithin, natural and artificial flavor, salt), high fructose corn syrup, **modified corn starch, dates, contains two percent or less of molasses, salt, cocoa, natural and artificial flavors, baking soda, cocoa (processed with alkali), eggs, emulsifiers (polysorbate 60, sorbitan monostearate, soy lecithin)**, annatto extract for color, whey.

# Product Label

<b>Nutrition Facts</b>	
Serving Size	1 Cookie (16g)
Servings Per Container	About 30
Amount Per Serving	
<b>Calories</b> 80	Calories from Fat 30
% Daily Value*	
<b>Total Fat</b> 3.5g	5%
<b>Saturated Fat</b> 1.5g	8%
<b>Trans Fat</b> 0g	
<b>Cholesterol</b> 0mg	0%
<b>Sodium</b> 55mg	2%
<b>Total Carbohydrate</b> 11g	4%
Dietary Fiber less than 1g	1%
Sugars 5g	
<b>Protein</b> less than 1g	
Vitamin A 0% • Vitamin C 0%	
Calcium 0% • Iron 0%	
*Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs:	
	Calories 2,000 2,500
Total Fat	Less than 65g 80g
Sat. Fat	Less than 20g 25g
Cholesterol	Less than 300mg 300mg
Sodium	Less than 2,400mg 2,400mg
Total Carbohydrate	300g 375g
Dietary Fiber	25g 30g
<b>INGREDIENTS:</b> ENRICHED FLOUR (WHEAT FLOUR, NIACIN, REDUCED IRON, THIAMIN MONONITRATE [VITAMIN B <sub>1</sub> ], RIBOFLAVIN [VITAMIN B <sub>2</sub> ], FOLIC ACID), VEGETABLE OIL (SOYBEAN, PALM AND PALM KERNEL OIL WITH TBHQ FOR FRESHNESS), SEMISWEET CHOCOLATE (SUGAR, CHOCOLATE, COCOA BUTTER, SOY LECITHIN, NATURAL AND ARTIFICIAL FLAVOR, SALT), SUGAR, HIGH FRUCTOSE CORN SYRUP, CHOCOLATE FLAVORED DROPS (SUGAR, PARTIALLY HYDROGENATED PALM KERNEL OIL, COCOA PROCESSED WITH ALKALI, SORBITAN MONOSTEARATE, POLYSORBATE 60, SOY LECITHIN, SALT, ARTIFICIAL FLAVOR), MODIFIED CORN STARCH, DATE PASTE, CONTAINS TWO PERCENT OR LESS OF MOLASSES, SALT, BAKING SODA, NATURAL AND ARTIFICIAL FLAVOR, EGG, SOY LECITHIN, ANNATTO COLOR, WHEY.	
†LESS THAN 0.5g TRANS FAT PER SERVING.	
CONTAINS WHEAT, SOY, EGG AND MILK INGREDIENTS. MAY CONTAIN TRACES OF PEANUTS.	

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<b>Sodium</b> 55mg	2%
<b>Total Carbohydrate</b> 11g	4%
Dietary Fiber less than 1g	1%
Sugars 5g	
<b>Protein</b> less than 1g	
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	Calories 2,000 2,500
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<b>Ingredients:</b> Enriched flour (wheat flour, niacin, reduced iron, thiamin mononitrate [vitamin B <sub>1</sub> ], riboflavin [vitamin B <sub>2</sub> ], folic acid), partially hydrogenated vegetable oil (soybean, cottonseed and/or palm kernel oil), sugar, semisweet chocolate (sugar, chocolate, cocoa butter, dextrose, soy lecithin, natural and artificial flavor, salt), high fructose corn syrup, modified corn starch, dates, contains two percent or less of molasses, salt, cocoa, natural and artificial flavors, baking soda, cocoa (processed with alkali), eggs, emulsifiers (polysorbate 60, sorbitan monostearate, soy lecithin), annatto extract for color, whey.	
CONTAINS WHEAT, SOY, EGG AND MILK INGREDIENTS. MAY CONTAIN TRACES OF PEANUTS.	

# Results

**Table 1. Proportion of savory snacks and cookie products selected in 2008 from a discount store in the Minneapolis-St. Paul, MN metropolitan area with nutrient and ingredient information available on manufacturer websites**

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<b>Product Category</b>	<b>% (n)</b>
<b>Savory Snacks (n=42)</b>	
Online nutrient information	76 (32)
Online ingredient information	74 (31)
Online nutrient and ingredient information	74 (31)
<b>Cookies (n=52)</b>	
Online nutrient information	71 (37)
Online ingredient information	52 (27)
Online nutrient and ingredient information	52 (27)

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# Results

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Of the products with online nutrient or ingredient information, 6 were no longer available in the store when we returned to compare online and product label information.

Thus, these products were excluded from analyses examining the comparability of online and label nutrition information.



# Results

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- Discrepancy = any difference between the product label and the nutrient information provided on manufacturer websites involving mandatory label information as set forth in the Code of Federal Regulation.

# Results

**Table 2.** Proportion of savory snack and cookie products with one or more discrepancies between nutrient and ingredient information provided on product labels versus manufacturer websites

<b>Product Category</b>	<b>% (n)</b>
<b>Savory Snacks</b>	
Nutrient differences	20 (6)
Ingredient differences	14 (4)
<b>Cookies</b>	
Nutrient differences	61 (20)
Ingredient differences	46 (12)

# Results

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- Types of nutrient discrepancies found included:
  1. Differences in the amounts of nutrient declared for products
  2. Nutrients for which nutrient composition information was provided
- For 27% of the cookie products online information did not include one or more nutrients for which mandatory information was provided on the product label
- The second type of discrepancy did not occur for the savory snack category



# Results

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**Table 3.** Number of savory snack and cookie products with an amount difference between nutrient composition information on product label and manufacturer website and magnitude of each difference

<b>Label Component/Nutrient</b>	<b>Number of Products with incongruent information</b>	<b>Differences found (product label value – online value)</b>
<b>Savory Snacks</b>		
Calories	1	10
Total fat (g)	1	-1
Trans fat (g)	1	-1
Sodium (mg)	3	-40, -30, 50
Sugars (g)	1	0.5
Vitamin A (%DV)	1	2
Iron (%DV)	1	-4
Phosphorus (%DV)	1	2

None of the Savory Snack products had incongruent information involving:

Serving Size (g), Calories from Fat, Saturated Fat (g), Cholesterol (mg), Total Carbohydrate (g), Dietary Fiber (g), Protein (g), Calcium (%DV), or Vitamin C (%DV)

<b>Label Component/Nutrient</b>	<b>Number of Products with incongruent information</b>	<b>Differences found (product label value – online value)</b>
<b>Cookies</b>		
Serving Size (g)	1	15
Calories	3	-10, -10, 10
Calories from fat	1	-5
Total fat (g)	3	-1, -0.5, 0.5
Saturated fat (g)	6	-1, 0.5, 0.5, 0.5, 0.5, 0.5
Trans fat (g)	3	-1.5, -1, -1
Sodium (mg)	4	-30, -5, 5, 70
Total Carbohydrate (g)	2	-1, -1
Dietary Fiber (g)	3	-0.5, -0.5, 0.5
Sugars (g)	3	-2, -1, -1
Protein (g)	4	-1, -0.5, -0.5, 0.5
Vitamin A (%DV)	1	-2
Calcium (%DV)	1	2
Iron (%DV)	4	-2, -2, 2, 2

None of the Cookie products had incongruent information involving:

Cholesterol (mg), or Vitamin C (%DV)



# Results

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- Types of ingredient discrepancies included:
  1. Difference in type of ingredient(s) listed
  2. Difference in order of ingredients listed

# Results

**Table 4.** Proportion of products with incongruent ingredient labels that had differences in ingredients listed or differences in order of ingredients

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<b>Product Category</b>	<b>% (n)</b>
<b>Savory Snacks (n=4)</b>	
≥ 1 difference in ingredients listed	100 (4)
≥ 1 difference in order of ingredients	25 (3)
<b>Cookies (n=12)</b>	
≥ 1 difference in ingredients listed	100 (12)
≥ 1 difference in order of ingredients	75 (9)

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# Results

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- None of the manufacturer websites stated when the reported nutrient and ingredient information had last been updated.
- Some posted disclaimers stating that the Nutrition Facts panel on the product package is always the best source of nutrition information for their products.



# Discussion and Conclusion

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- The results of this study suggest that online nutrient composition and ingredient information provided by food manufacturers may be a valuable resource to consumers and food and nutrient database developers.
- Similar surveys involving other food categories are needed to further evaluate this source of food product information.
- Manufacturers should be encouraged to provide the date the nutrient and ingredient information was last updated so that those using this information source may gauge its currency.