

Grain Requirements Timeline for the National School Lunch Program

	Starting July 1, 2012	Starting July 1, 2013	Starting July 1, 2014
Weekly Min/Max Requirements	Minimum/Maximum weekly ranges must be met		
Whole Grain-Rich Requirements	<u>Half</u> of the grains offered per week must be whole grain-rich	<u>Half</u> of the grains offered per week must be whole grain-rich	<u>All</u> grains offered per week must be whole grain-rich
Serving Size Criteria	14.75 grams/bread serving <u>or</u> 16 grams/oz equivalent	16 grams/oz equivalent	
Breading on Battered or Breaded Products	Do <u>not</u> need to be counted toward the maximum weekly grain requirements	Must be counted towards the weekly minimum and maximum grain requirements	

Attachment A: List of Common Whole Grains

While this list is extensive, it is NOT comprehensive and therefore may not contain all possible representations of whole-grain ingredient names on food labels.

WHEAT (RED) – the most common kind of wheat in the U.S.

- wheat berries
- whole-grain wheat
- cracked wheat or crushed wheat
- whole-wheat flour
- bromated whole-wheat flour
- stone ground whole-wheat flour
- toasted crushed whole wheat
- whole-wheat pastry flour
- graham flour
- entire wheat flour
- whole durum flour
- whole durum wheat flour
- whole-wheat flakes
- sprouted wheat
- sprouted wheat berries
- bulgur (cracked wheat)
- whole bulgur
- whole-grain bulgur

WHEAT (WHITE)

- whole white wheat
- whole white wheat flour

OATS

- whole oats
- oat groats
- oatmeal or rolled oats
- whole-oat flour

BARLEY

- whole barley
- whole-grain barley
- whole-barley flakes
- whole-barley flour
- whole-grain barley flour
- dehulled barley
- dehulled-barley flour

CORN

- whole corn
- whole-corn flour
- whole-grain corn flour
- whole-grain cornmeal
- whole cornmeal
- whole-grain grits

BROWN RICE

- brown rice
- brown-rice flour

WILD RICE

- wild rice
- wild-rice flour

RYE

- whole rye
- rye berries
- whole-rye flour
- whole-rye flakes

LESS COMMON GRAINS: to be whole grains, "whole" must be listed before the grain name.

- einkorn
- Kamut®
- emmer (farro)
- teff
- triticale
- spelt
- buckwheat
- amaranth
- sorghum (milo)
- millet
- quinoa

Looking at the Whole Product:

Before purchasing new products containing whole grains, look carefully at the whole product, not just the whole grains. In keeping with the 2005 Dietary Guidelines for Americans (DGA) recommendations, SFAs should offer whole-grain products that are low in sugars and/or fat. The goal is to offer nutritious whole-grain foods that students can enjoy. Including a dessert on a limited basis as an element of a reimbursable meal can have the positive effect of increasing acceptance and encouraging children to more fully participate in the meal service. We do not support using dessert items to meet the bread requirement in every meal, but we do acknowledge the benefit on occasion.

Storing Whole Grains:

As with all foods, use FIFO (First In, First Out) principles when storing whole grains. Because whole-grain ingredients (e.g., whole-wheat flour, brown rice) retain the bran and the oil-rich germ, these items may turn rancid when stored in warm areas. To increase the shelf life, store these products in a cool, dry place in airtight containers. If the whole-grain products will not be used within a short period of time, they should be stored in the refrigerator or freezer.

Taste-Testing of Whole-Grain Products:

Some students may not be familiar with whole-grain products. To encourage them to try different products, schools can have student taste tests to select products that have the most student appeal. By documenting the taste tests and student preferences, SFAs may develop a list of approved whole-grain products for purchase.

Introduce whole grains in student favorites, such as pizza or spaghetti, and gradually increase the amount of whole grains in recipes over the school year as students adapt to the changes.

Ideas for Adding Whole Grains to Menus in Child Nutrition Programs:

Whole-grain ready-to-eat cereals	Whole-grain crackers or cookies
Whole-grain cooked breakfast cereals	Whole-grain side dishes (e.g., brown rice, wild rice, cracked wheat, whole-grain bulgur or barley, whole specialty grains)
Granola made from whole grains	Whole-wheat pasta, such as macaroni, spaghetti, vermicelli, or whole-grain noodles
Whole-grain cereal or granola bars	Whole-grain salads (cracked wheat, whole-grain bulgur, whole specialty grains)
Whole-grain pancakes or waffles	Other uses of whole grains (soups, casseroles, combination dishes)
Whole-grain bagels or muffins	Soba noodles (with whole buckwheat flour as primary ingredient)
Whole-wheat breads, rolls, or buns	
Other whole-grain breads, rolls, or buns	
Whole-grain tortillas, taco shells	
Whole-grain chips/pretzels	
Whole-grain pita pockets	
Whole-grain cornbread	



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Department of
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Food and
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SUBJECT: Grain Requirements for the National School Lunch Program and
School Breakfast Program

TO: Regional Directors
Special Nutrition Programs
All Regions

State Directors
Child Nutrition Programs
All States

SOURCE CITATION: 42 USC 1753(b)(3) and 1758(a)(4) and 7 CFR Parts 210 and 220

This memorandum explains the grains requirements for the National School Lunch Program (NSLP) and the School Breakfast Program (SBP) and specifically addresses implementation of the ounce equivalencies and definition of whole grain-rich products.

The Department of Agriculture (USDA) published, "Nutrition Standards in the National School Lunch and School Breakfast Programs" on January 26, 2012. This final rule amended NSLP and SBP regulations at 7 CFR 210.10 and 220.8, updating the meal patterns and nutrition standards to align them with the 2010 *Dietary Guidelines for Americans* (DGAs) as required by Sections 4(b) and 9(a)(4) of the Richard B. Russell National School Lunch Act as amended by Section 201 of the Healthy, Hunger-Free Kids Act of 2010. The meal patterns for the NSLP and the SBP include quantities of grains based on ounce equivalencies (oz eq) in a manner that is consistent with the DGAs and the USDA food guidance system known as MyPlate. The amounts of foods included in the meal pattern, including the amount of oz eq of grains, were carefully determined through an extensive review and assessment to meet 24 nutrient targets. NSLP and SBP nutrition standards also require all grains to be whole grain-rich by school year (SY) 2014-2015.

This memorandum sets forth the criteria to be used by school food authorities (SFAs) and program operators to determine grains which meet the regulatory standards and to determine equivalent minimum serving sizes (oz eq). In addition, this memorandum includes examples of foods that qualify as grains based on the nutrition standards in the NSLP and SBP hereafter referred to as "school meal programs."

I CRITERIA FOR DETERMINING ACCEPTABLE GRAINS FOR SCHOOL MEAL PROGRAMS

The requirements to offer whole grain-rich products will be phased in for the school meal programs over the next two SYs:

For **lunch**, beginning July 1, 2012 (SY 2012-2013), through June 30, 2014 (SY 2013-2014), half of the grains offered during the school week must meet the whole grain-rich criteria. Beginning July 1, 2014, (SY 2014-2015), **all** grains must meet the whole grain-rich criteria.

For **breakfast**, beginning July 1, 2013 (SY 2013-2014), half of the grains offered during the school week must meet the whole grain-rich criteria. Beginning July 1, 2014, (SY 2014-2015), **all** grains must meet the whole grain-rich criteria.

Through SY 2013-2014, SFAs and program operators should continue to refer to *Section 3 Grains/Breads* of the *Food Buying Guide for Child Nutrition Programs* and *FCS Instruction 783 - REV 2, The Grains/Breads Requirements for Food-based Menu Planning Alternatives in the Child Nutrition Programs* for guidance on products which meet the grains requirements, but not the whole grain-rich requirements. After SY 2013-2014, all grain must be whole grain-rich in order to meet NSLP and SBP nutrition standards. The USDA is in the process of updating several resources to assist SFAs and program operators with identifying whole grain-rich foods for availability by summer 2012.

Whole Grain-Rich Criteria

In accordance with NSLP and SBP regulations at 7 CFR Parts 210 and 220, the following criteria are to be used as the basis for crediting items to meet the whole grain-rich requirement:

Foods that qualify as whole grain-rich for the school meal programs are foods that contain 100-percent whole grain or contain a blend of whole-grain meal and/or flour and enriched meal and/or flour of which at least 50-percent is whole grain. Whole grain-rich products must contain at least 50-percent whole-grains and the remaining **grain**, if any, must be enriched.

Schools can use the following elements as a simple checklist to evaluate if a grain product meets the whole grain-rich criteria:

Element 1: The food item must meet the oz eq requirements for the grains component as defined by this guidance.

Element 2: The food must meet at least one of the following:

a. The whole-grain content per oz eq based on the attached Exhibit A weights must be at least 8.0 grams or more for Groups A – G. For Groups H and I, the volumes or weights listed must be offered to credit as one oz eq. This information may be determined from information provided on the product packaging or by the manufacturer, if available.

b. The product includes the following Food and Drug Administration-approved whole-grain health claim on its packaging: “Diets rich in whole grain foods and other plant foods and low in total fat, saturated fat, and cholesterol may reduce the risk of heart disease and some cancers.”

c. The product ingredient declaration lists whole grains first, specifically:

- I. Non-mixed dishes (e.g., breads, cereals): whole grains must be the primary ingredient by weight (a whole grain is the first ingredient in the list with an exception for water). When the whole grain content comes from multiple ingredients, the combined whole grain ingredients may be the primary ingredient by weight even though a whole grain is not listed as the first ingredient. These products could meet the whole grain-rich criteria with proper manufacturer documentation. For example, a bread item may be made with three grain ingredients: enriched wheat flour (40% of grain), whole wheat (30% of grain), and whole oats (30% of grain). The program operator, with the assistance of manufacturers, could determine that whole grains were the primary ingredient by weight since the combined 60% whole grain ingredients are greater than the enriched wheat flour at 40% although the enriched flour may be listed first in the ingredient declaration.
- II. Mixed dishes (e.g., pizza, corn dogs): whole grains must be the primary grain ingredient by weight (a whole grain is the first grain ingredient in the list of grains). For foods prepared by the school food service, the recipe is used as the basis for a calculation to determine whether the total weight of whole-grain ingredients exceed the total weight of non whole-grain ingredients.

When flour blends are listed in the ingredient declaration and grouped together with parentheses, for example, ingredients: flour blend (whole wheat flour, enriched flour), sugar, cinnamon, etc., program operators will need to know either that the whole grain content is at least 8.0 grams per oz eq or that the weight of the whole grain is greater than the first ingredient listed after the flour blend such as sugar in the example.

A ready-to-eat (RTE) breakfast cereal must list a whole grain as the primary ingredient and the RTE cereal must be fortified. If the grain product includes enriched ingredients, or the

product itself is enriched; the ingredients or the grain product must meet the Food and Drug Administration's standards of identity for enrichment (21 CFR Section 137). Bran and germ are not creditable in school meal programs. Non-creditable grain ingredients in products at very low levels used as processing aids are allowable at levels less than 2-percent.

Manufacturers may apply for a Child Nutrition (CN) Label for qualifying products to indicate the number of oz eq grains that meet the whole grain-rich criteria. The term, "oz eq grains" on the CN Label indicates the product meets the whole grain-rich criteria, while the terms "bread" or "bread alternate" on the CN Label indicates the product meets previous program requirements for grains/breads. Please refer to the CN Labeling Program website for details regarding qualifying products at: www.fns.usda.gov/cnd/cnlabeling/.

II CRITERIA FOR DETERMINING EQUIVALENT MINIMUM SERVING SIZES

Pursuant to the new NSLP and SBP regulations, the updated meal patterns, which include requirements for whole-grain rich grain products based on oz eq, will become effective on July 1, 2012, the beginning of SY 2012-2013. Recognizing that operators and manufacturers which provide products for the school meal programs may require time to change specifications and revise products, we will allow SFAs and program operators to credit grain products based on the current 14.75 grams of grains per serving through SY 2012-2013. All grain products must be credited based on per oz eq standards beginning on July 1, 2013, the beginning of SY 2013-2014.

As provided for in NSLP and SBP regulations, grain products must be credited using the oz eq method. This criterion is applied to various products as follows:

- Baked goods, such as breads, biscuits, bagels, etc., require 16 grams of creditable grain ingredients in order to provide 1 oz eq credit.
- For cereal grains such as oatmeal, pasta, and brown rice, a 1-ounce equivalent is 28 grams (approximately 1.0 ounce by weight) of dry product. Since these grains are served cooked and water is added in preparation, the cooked volume equivalent is ½ cup cooked cereal, pasta, or rice.
- For ready-to-eat (RTE) breakfast cereal, 28 grams *or* 1.0 ounce of product is considered an ounce equivalent. The ounce equivalent volumes are 1 cup flakes or rounds, 1.25 cups puffed cereal, and ¼ cup granola. As with baked goods, we recognize that program operators and manufacturers may need additional time to adjust products and orders with respect to volume requirements for RTE cereal.

The new meal patterns provide a minimum and maximum number of oz eq to meet a weekly grains requirement by age group. All grains offered should be counted toward meeting these minimum and maximum requirements using the ounce equivalent or "bread" or "bread alternate" criteria in the interim. Of the weekly total for lunch, up to two (2.0) oz eq grains per week may be in the form of a grain-based dessert.

During SY 2012-2013, battered and/or breaded products offered will not need to be counted toward the maximum weekly grain requirements in the meal pattern. Beginning July 1, 2013 (SY 2013-2014), all grains which are part of battered and/or breaded products offered must be counted towards the weekly grain requirement.

The contribution of grains in a recipe or product formulation for items listed in Exhibit A, Groups A-G, may be calculated to determine the number of oz eq grains the recipe provides based on 16 grams of grain ingredients per ounce equivalent. The crediting of a food item as oz eq grains is determined by the total amount in grams of whole-grain meal and/or flour or whole-grain and enriched meal and/or flour in the product formulation or recipe divided by the number of servings the formulation or recipe yields divided by the 16 grams per oz eq standard. For the types of food items listed in Groups H and I of the attached Exhibit A to count as one full serving, the weights or volumes listed therein must be used.

One quarter (1/4) of an oz eq is the smallest amount allowable to be credited toward the quantities of grains. If the minimum daily requirement for grains is 1 oz eq, this minimum can be met by offering multiple food items, for example, 0.5 oz eq of one grain item and 0.5 oz eq of another grain item. The oz eq for grains may be determined by using either the weights or volumes listed in the attached Exhibit A, or the SFA may require documentation from a manufacturer certifying the grams of creditable grains per portion for determining the oz eq from a given product.

The attached *Exhibit A: School Lunch and Breakfast* contains the equivalent minimum weights for a wide variety of purchased food items to meet the oz eq criteria. Program operators may use Exhibit A instead of calculating the actual amount of grains in a product since it provides the equivalent minimum weights to provide one oz eq of grains. We note that the listing of food items included in Exhibit A is not exhaustive.

Exhibit A provides oz equivalent information for products commonly offered in schools. SFAs have flexibility to use a wide range of products in planning meals which meet NSLP and SBP meal pattern and nutrition specifications. However, program operators are strongly encouraged to offer food items that are low in added sugars, sodium, and saturated fat in order to meet these requirements and provide foods which are consistent with the Dietary Guidelines for Americans.

SUMMARY OF IMPLEMENTATION DATES:

Ounce equivalent requirements: All grain products must be credited based on oz eq standards beginning July 1, 2013, the beginning of SY-2013-2014. The grain component weights in the attached *Exhibit A: School Lunch and Breakfast* have been updated to reflect the change from 14.75 grams of creditable grain to 16.0 grams of creditable grain per oz eq

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for Groups A-G. The original Exhibit A weights and volumes for all Child Nutrition Programs may continue to be used through June 30, 2013 for lunch and breakfast.

Whole grain-rich requirements: for lunch, beginning July 1, 2012 (SY 2012-2013), half of the grains offered during the school week must meet the whole grain-rich criteria. For breakfast, beginning July 1, 2013 (SY 2013-2014), half of the grains offered during the school week must meet the whole grain-rich criteria. Beginning July 1, 2014, (SY 2014-2015), all grains must meet the whole grain-rich criteria for lunch and breakfast.

For NSLP and SBP (sections 210.10, 210.10a, 220.8, and 220.8a), this policy memorandum supersedes FCS Instruction 783 - REV 2, The Grains/Breads Requirements for Food-based Menu Planning Alternatives in the Child Nutrition Programs and the *Food Buying Guide for Child Nutrition Programs* guidance on Grains/Breads. However, the FCS Instruction 783 - REV 2, will be revised to remove the sections mentioned above and will pertain to all other Child Nutrition Programs. State Agencies should contact their Food and Nutrition Service Regional Office with any questions.

Original Signed

Cynthia Long
Director
Child Nutrition Division

Attachment

**EXHIBIT A: SCHOOL LUNCH AND BREAKFAST
WHOLE GRAIN-RICH OUNCE EQUIVALENCY (OZ EQ) REQUIREMENTS FOR
SCHOOL MEAL PROGRAMS^{1,2}**

GROUP A	OZ EQ FOR GROUP A
<ul style="list-style-type: none"> • Bread type coating • Bread sticks (hard) • Chow mein noodles • Savory Crackers (saltines and snack crackers) • Croutons • Pretzels (hard) • Stuffing (dry) Note: weights apply to bread in stuffing. 	1 oz eq = 22 gm or 0.8 oz 3/4 oz eq = 17 gm or 0.6 oz 1/2 oz eq = 11 gm or 0.4 oz 1/4 oz eq = 6 gm or 0.2 oz
GROUP B	OZ EQ FOR GROUP B
<ul style="list-style-type: none"> • Bagels • Batter type coating • Biscuits • Breads (sliced whole wheat, French, Italian) • Buns (hamburger and hot dog) • Sweet Crackers⁴ (graham crackers - all shapes, animal crackers) • Egg roll skins • English muffins • Pita bread (whole wheat or whole grain-rich) • Pizza crust • Pretzels (soft) • Rolls (whole wheat or whole grain-rich) • Tortillas (whole wheat or whole corn) • Tortilla chips (whole wheat or whole corn) • Taco shells (whole wheat or whole corn) 	1 oz eq = 28 gm or 1.0 oz 3/4 oz eq = 21 gm or 0.75 oz 1/2 oz eq = 14 gm or 0.5 oz 1/4 oz eq = 7 gm or 0.25 oz
GROUP C	OZ EQ FOR GROUP C
<ul style="list-style-type: none"> • Cookies ³ (plain - includes vanilla wafers) • Cornbread • Corn muffins • Croissants • Pancakes • Pie crust (dessert pies³, cobbler³, fruit turnovers⁴, and meat/meat alternate pies) • Waffles 	1 oz eq = 34 gm or 1.2 oz 3/4 oz eq = 26 gm or 0.9 oz 1/2 oz eq = 17 gm or 0.6 oz 1/4 oz eq = 9 gm or 0.3 oz

¹ The following food quantities from Groups A-G, must contain at least 16 grams of whole-grain or can be made with 8 grams of whole-grain and 8 grams of enriched meal and/or enriched flour to be considered whole grain-rich.

² Some of the following grains may contain more sugar, salt, and/or fat than others. This should be a consideration when deciding how often to serve them.

³ Allowed only as dessert at lunch as specified in §210.10.

⁴ Allowed for desserts at lunch as specified in §210.10, and for breakfasts served under the SBP.

GROUP D	OZ EQ FOR GROUP D
<ul style="list-style-type: none"> • Doughnuts⁴ (cake and yeast raised, unfrosted) • Cereal bars, breakfast bars, granola bars⁴ (plain) • Muffins (all, except corn) • Sweet roll⁴ (unfrosted) • Toaster pastry⁴ (unfrosted) 	1 oz eq = 55 gm or 2.0 oz 3/4 oz eq = 42 gm or 1.5 oz 1/2 oz eq = 28 gm or 1.0 oz 1/4 oz eq = 14 gm or 0.5 oz
GROUP E	OZ EQ FOR GROUP E
<ul style="list-style-type: none"> • Cereal bars, breakfast bars, granola bars⁴ (with nuts, dried fruit, and/or chocolate pieces) • Cookies³ (with nuts, raisins, chocolate pieces and/or fruit purees) • Doughnuts⁴ (cake and yeast raised, frosted or glazed) • French toast • Sweet rolls⁴ (frosted) • Toaster pastry⁴ (frosted) 	1 oz eq = 69 gm or 2.4 oz 3/4 oz eq = 52 gm or 1.8 oz 1/2 oz eq = 35 gm or 1.2 oz 1/4 oz eq = 18 gm or 0.6 oz
GROUP F	OZ EQ FOR GROUP F
<ul style="list-style-type: none"> • Cake³ (plain, unfrosted) • Coffee cake⁴ 	1 oz eq = 82 gm or 2.9 oz 3/4 oz eq = 62 gm or 2.2 oz 1/2 oz eq = 41 gm or 1.5 oz 1/4 oz eq = 21 gm or 0.7 oz
GROUP G	OZ EQ FOR GROUP G
<ul style="list-style-type: none"> • Brownies³ (plain) • Cake³ (all varieties, frosted) 	1 oz eq = 125 gm or 4.4 oz 3/4 oz eq = 94 gm or 3.3 oz 1/2 oz eq = 63 gm or 2.2 oz 1/4 oz eq = 32 gm or 1.1 oz
GROUP H	OZ EQ FOR GROUP H
<ul style="list-style-type: none"> • Cereal Grains (barley, quinoa, etc) • Breakfast cereals (cooked)^{5,6} • Bulgur or cracked wheat • Macaroni (all shapes) • Noodles (all varieties) • Pasta (all shapes) • Ravioli (noodle only) • Rice (enriched white or brown) 	1 oz eq = 1/2 cup cooked or 1 ounce (28 g) dry
GROUP I	OZ EQ FOR GROUP I
<ul style="list-style-type: none"> • Ready to eat breakfast cereal (cold, dry)^{5,6} 	1 oz eq = 1 cup or 1 ounce for flakes and rounds 1 oz eq = 1.25 cups or 1 ounce for puffed cereal 1 oz eq = 1/4 cup or 1 ounce for granola

⁵ Refer to program regulations for the appropriate serving size for supplements served to children aged 1 through 5 in the NSLP; and meals served to children ages 1 through 5 and adult participants in the CACFP. Breakfast cereals are traditionally served as a breakfast menu item but may be served in meals other than breakfast.

⁶ Cereals must be whole-grain, or whole grain and enriched or fortified cereal.

Grade	Meal	Daily Grains Minimum/day (oz eq)	Weekly Grains Range (oz eq)
K-5 th	Lunch	1	8-9

Asterisk (*) desserts

Day	Option 1	Option 2	Maximum Grains Offered (oz eq)	Minimum Grains Offered (oz eq)
Monday	2 meatballs _____ = <u>0.5</u> oz eq ½ cup enriched rice _____ = <u>1</u> oz eq	1 cup enriched noodles _____ = <u>2</u> oz eq		
Tuesday	5 chicken nuggets _____ = <u>1</u> oz eq 4 graham crackers* _____ = <u>1</u> oz eq	56 gram wheat tortilla _____ = <u>2</u> oz eq		
Wednesday	56 gram hamburger bun = <u>2</u> oz eq	Grilled Cheese Sandwich 28 gram sandwich bread (2 slices) _____ = <u>2</u> oz eq		
Thursday	28 gram dinner roll _____ = <u>1</u> oz eq	4 saltine crackers _____ = <u>0.5</u> oz eq ¼ cup noodles (soup) _____ = <u>0.5</u> oz eq		
Friday	Pepperoni pizza slice _____ = <u>2</u> oz eq	Cheese pizza slice _____ = <u>2</u> oz eq		
Please answer the following questions after you have completed the chart above.			Week Total Maximum(oz eq)	Week Total Minimum(oz eq)
Is the Daily Grains Minimum met for each day? Yes/No				
Is the Week Total Maximum within the Weekly Grains Range? Yes/No				
Is the Week Total Minimum within the Weekly Grains Range? Yes/No				
Is the week total grain-based desserts 2.0 oz eq grains or less? Yes/No				

Handout: Product Label

1. Whole Wheat Bread

Diets rich in whole-grain foods and other plant foods, and low in saturated fat and cholesterol, may help reduce the risk of heart disease.

Meets American Heart Association food criteria for saturated fat and cholesterol for healthy people over age 2.

Nutrition Facts

Serving Size: 1 slice (28 g)

Calories 69
Protein (g) 4
Carbohydrate (g) 12
Dietary Fiber (g) 2
Sugars (g) 2
Total Fat (g) 1
Saturated Fat (g) 0
Trans Fat (g) 0
Cholesterol (mg) 0
Sodium (mg) 132
Vitamin A 0%
Vitamin C 0%
Iron 4%
Calcium 3%

Ingredients: Whole wheat flour, water, corn syrup, wheat gluten, yeast, contains 2% or less of each of the following: honey, partially hydrogenated soybean oil, salt, dough conditioners (may contain one or more of each of the following: mono- and diglycerides, ethoxylated mono- and diglycerides, calcium and sodium stearoyl lactylates, calcium peroxide, calcium carbonate), whey, yeast nutrients (mono-calcium phosphate, calcium sulfate, ammonium sulfate), distilled vinegar, cornstarch.

Product Label #7, Honey Graham Crackers

Honey Graham Crackers

Now more whole grains

Nutrition Facts

Serving Size: 2 squares (14 g)

Calories	59
Protein (g)	1
Carbohydrate (g)	11
Dietary Fiber (g)	0
Sugars (g)	4
Total Fat (g)	1
Saturated Fat (g)	0
<i>Trans</i> Fat (g)	N/A
Cholesterol (mg)	0
Sodium (mg)	85
Vitamin A	0%
Vitamin C	0%
Iron	6%
Calcium	0%

Ingredients: Enriched flour (wheat flour, niacin, reduced iron, thiamine mononitrate [vitamin B1], riboflavin [vitamin B2], folic acid), sugar, graham flour (whole-grain wheat flour), soybean oil, high fructose corn syrup, partially hydrogenated cottonseed oil, honey, leavening (baking soda, calcium phosphate), salt, artificial flavor, soy lecithin- an emulsifier, cornstarch.

Whole Wheat Rolls, Bread Sticks, Buns, 51%

Breads

HACCP: Non-Hazardous/Other

Healthier Kansas Recipe 877
USDA B-16, modified

Ingredients	200 Servings		Servings Measure	Directions
	Weight	Measure		
Flour, White Whole Wheat Flour, All-purpose, enriched Dry Milk, instant, nonfat* Sugar, granulated Yeast, <i>instant</i> , dry Salt	3 lbs + 12 oz 3 lbs + 8 oz 7 oz 11.5 oz 3 oz 1.75 oz	1 3/4 cup 1 1/4 cup + 3 Tbsp 1/2 cup 2 Tbsp + 2 tsp		<ol style="list-style-type: none"> Place flour, dry milk, sugar, yeast and salt in mixer bowl. Blend with dough hook for approximately 2 minutes on low speed.
Vegetable Oil	13 oz	1 2/3 cup		<ol style="list-style-type: none"> Add oil and blend for approximately 2 minutes on low speed.
Water* (Calculate water by temperature by subtracting the temperature of the dry ingredients from 145°)		2 qt + 1/4 cup (+ up to 1 cup if dough is stiff)		<ol style="list-style-type: none"> Add first amount of water to the dry ingredients. If dough appears too stiff, add up to 1 cup extra water per 200 servings. More or less water can be added as needed. Mix for 1 minute on low speed or until all water is mixed with the dry ingredients. Knead dough on medium speed for 8-10 minutes until dough is properly developed. Use the gluten stretch test: At 8 minutes, stretch the dough like a rope. If it breaks, continue to mix 2 additional minutes.
Pan release spray		As needed		<ol style="list-style-type: none"> Form rolls from dough by pinching off 1 oz pieces and shaping. Place rolls in rows of 7 across and 10 down on sheet pans (18" x 26" x 1") which have been lined with pan liners. (See variations below for shaping bread sticks and hamburger buns.) Place in a warm area (about 90° F) until double in size, approximately 45-60 minutes.

Whole Wheat Rolls, 51%, continued

Ingredients	200 Servings		Servings		Directions
	Weight	Measure	Weight	Measure	
					<p>8. Bake until lightly browned. * Convectional oven: 400° F for 18-20 minute * Convection oven: 350° F for 12-14 minutes Turn pans half-way through the baking time to promote even baking. Recommended internal temperature for baked rolls is 196-198°F.</p> <p>9. Rolls will have a better appearance if lightly sprayed with pan release spray when they come out of the oven.</p>

Serving Size	1 Serving Provides	Yield
K-12: 1 each	1.1 units G/B	200 rolls – Approximately 13 lbs 8 oz of dough

Nutrients Per Serving

Calories	80	Vitamin A	4.8 IU	Iron	.84 mg
Protein	2.01 gm	Vitamin C	1.15 mg	Calcium	8.54 mg
Carbohydrate	14.03 gm	Fiber	1.20 gm	Cholesterol	0 mg
Fat	2.06 gm	% Fat	23.15 %	Sodium	96 mg
Saturated Fat	0.31 gm	% Saturated Fat	3.55 %		