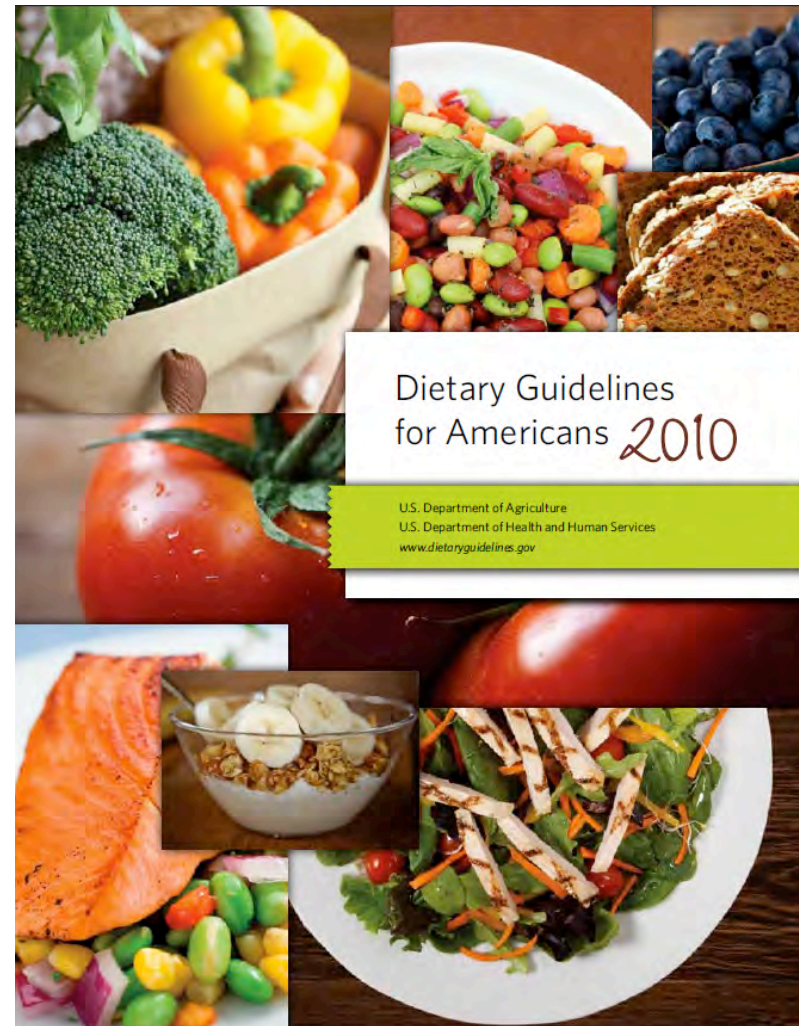


WHOLE GRAINS IN THE NEW *DIETARY GUIDELINES FOR AMERICANS, 2010*

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Policy and Promotion



Available at www.dietaryguidelines.gov

Uses of the *Dietary Guidelines for Americans, 2010*

- The Dietary Guidelines forms the basis for nutrition policy in Federal food, nutrition, education, and information programs.
 - Used in developing educational materials
 - Federal dietary guidance publications are required by law to be consistent with the Dietary Guidelines
 - Aid policymakers in designing and implementing nutrition-related programs
 - E.g., National Child Nutrition Programs and the Elderly Nutrition Program

Two Overarching Concepts

1. Maintain calorie balance over time to achieve and sustain a healthy weight.
2. Focus on consuming nutrient-dense foods and beverages.

Define: Nutrient Dense

- Nutrient-dense foods and beverages provide vitamins, minerals, and other substances that may have positive health effects, with relatively few calories.
 - Lean or low in solid fats
 - Minimize or exclude added solid fats, sugars, starches, and sodium
 - Ideally, in forms that retain naturally occurring components
- All vegetables, fruits, *whole grains*, seafood, eggs, beans and peas, unsalted nuts and seeds, fat-free and low-fat milk and milk products, and lean meats and poultry – when prepared without solid fats or added sugars – are nutrient-dense foods.

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- **Chapter 2:** Balancing Calories to Manage Weight
- **Chapter 3:** Foods and Food Components to Reduce
- **Chapter 4:** Foods and Nutrients to Increase
- **Chapter 5:** Building Healthy Eating Patterns
- **Chapter 6:** Helping Americans Make Healthy Choices
- **Appendices**

Key Recommendations

- 29 key recommendations
 - 23 for the general population
 - 6 for specific population groups
- To get the full benefit, individuals should carry out the Dietary Guidelines recommendations in their entirety as part of an overall healthy eating pattern.



“Grains” in the DGA, 2010



□ Chapter 3: Foods and Food Components to Reduce



Limit the consumption of foods that contain refined grains, especially refined grain foods that contain solid fats, added sugars, and sodium.



□ Chapter 4: Foods and Nutrients to Increase



Consume at least half of all grains as whole grains. Increase whole-grain intake by replacing refined grains with whole grains.

“Whole Grains” in the DGA, 2010

Third, most vegetables and fruits, when prepared without added fats or sugars, are relatively low in calories. Eating them instead of higher calorie foods can help adults and children achieve and maintain a healthy weight.

Very few Americans consume the amounts of vegetables recommended as part of healthy eating patterns. (See Chapter 5 for specific information and recommendations.) For almost all Americans ages 2 years and older, usual intake falls below amounts recommended.

Similarly, although most Americans 2 to 3 years of age consume recommended amounts of total fruits, Americans ages 4 years and older do not. (See Chapter 5 for specific information and recommendations.) Children ages 2 to 18 years and adults ages 19 to 30 years consume more than half of their fruit intake as juice. Although 100% fruit juice can be part of a healthful diet, it lacks dietary fiber and when consumed in excess can contribute extra calories. The majority of the fruit recommended should come from whole fruits, including fresh, canned, frozen, and dried forms, rather than from juice. When juices are consumed, 100% juice should be encouraged. To limit intake of added sugars, fruit canned in 100% fruit juice is encouraged over fruit canned in syrup.

Grains

In the U.S. marketplace, consumers have a wide variety of grain-based food options. Although Americans generally eat enough total grains, most of the grains consumed are refined grains rather than whole grains. Some refined grain foods also are high in solid fats and added sugars.

Whole grains

Whole grains are a source of nutrients such as iron, magnesium, selenium, B vitamins, and dietary fiber. Whole grains vary in their dietary fiber content. Moderate evidence indicates that whole-grain intake may reduce the risk of cardiovascular disease and is associated with a lower body weight. Limited evidence also shows that consuming whole grains is associated with a reduced incidence of type 2 diabetes. Consuming enough whole grains helps meet nutrient needs. Choosing whole grains that are higher in dietary fiber has additional health benefits.

WHOLE, REFINED, AND ENRICHED GRAINS: WHAT'S THE DIFFERENCE?

Whole grains include the entire grain seed, usually called the kernel. The kernel consists of three components—the bran, germ, and endosperm. If the kernel has been cracked, crushed, or flaked, then, to be called a “whole grain” a food must retain the same relative proportions of these components as they exist in the intact grain. Whole grains are consumed either as a single food (e.g., wild rice or popcorn) or as an ingredient in foods (e.g., in cereals, breads, and crackers). Some examples of whole-grain ingredients include buckwheat, bulgur, millet, oatmeal, quinoa, rolled oats, brown or wild rice, whole-grain barley, whole rye, and whole wheat.

Refined grains have been milled to remove the bran and germ from the grain. This is done to give grains a finer texture and improve their shelf life, but it also removes dietary fiber, iron, and many B vitamins.

Enriched grains are grain products with B vitamins (thiamin, riboflavin, niacin, folic acid) and iron added. Most refined-grain products are enriched.

At least half of recommended total grain intake should be whole grains. (See Chapter 5 for specific information and recommendations.) Less than 5 percent of Americans consume the minimum recommended amount of whole grains, which for many is about 3 ounce-equivalents⁶² per day. On average, Americans eat less than 1 ounce-equivalent of whole grains per day.

Americans should aim to replace many refined-grain foods with whole-grain foods that are in their nutrient-dense forms to keep total calorie intake within limits. When refined grains are eaten, they should be enriched. Individuals may choose to consume more than half of their grains as whole grains. To ensure

FIGURE 4-1. Three Ways to Make at Least Half of Total Grains Whole Grains*

1. 3 ounces of 100% whole grains and 3 ounces of refined-grain products



2. 2 ounces of 100% whole grains, 2 ounces of partly whole-grain products,^b and 2 ounces of refined-grain products



3. 6 ounces of partly whole-grain products



a. Each one-ounce slice of bread represents a 1 ounce-equivalent of grains: 1 one-ounce slice bread; 1 ounce uncooked pasta or rice; 1/2 cup cooked rice, pasta, or cereal; 1 tortilla (6" diameter); 1 pancake (5" diameter); 1 ounce ready-to-eat cereal (about 1 cup cereal flakes). The figure uses an example for a person whose recommendation is 6 ounces

of total grains with at least 3 ounces from whole grains per day. b. Partly whole-grain products depicted are those that contribute substantially to whole-grain intake. For example, products that contain at least 51% of total weight as whole grains or those that provide at least 8 grams of whole grains per ounce-equivalent.

nutrient adequacy, individuals who consume all of their grains as whole grains should include some that have been fortified with folic acid, such as some ready-to-eat whole-grain cereals. This is particularly important for women who are capable of becoming pregnant.

The recommendation to consume at least half of total grains as whole grains can be met in a number of ways (Figure 4-1). The most direct way to meet the whole grain recommendation is to eat at least half of one's grain-based foods as 100% whole-grain foods. If the only grains in the ingredients list are whole grains, the food is a 100% whole-grain food. The relative amount of grain in the food can be inferred by the placement of the

FOR MORE INFORMATION
Appendix 4, Using the Food Label to Track Calories, Nutrients, and Ingredients, lists some of the whole grains available in the United States and explains how to use the ingredients list to find whole grains.

grain in the ingredients list. The whole grain should be the first ingredient or the second ingredient, after water. For foods with multiple whole-grain ingredients, they should appear near the beginning of the ingredients list.

Many grain foods contain both whole grains and refined grains. These foods also can help people meet the whole grain recommendation, especially if a considerable proportion of the grain ingredients is whole grains. For example, foods with at least 51 percent of the total weight as whole-grain ingredients contain a substantial amount of whole grains. Another example is foods with at least 8 grams of whole grains per ounce-equivalent.⁶³ Some product labels show the whole grains health claim⁶⁴ or the grams of whole grain in the product. This information may help people identify food choices that have a substantial amount of whole grains.

62. 1 ounce-equivalent of grain is: 1 one-ounce slice bread; 1 ounce uncooked pasta or rice; 1/2 cup cooked rice, pasta, or cereal; 1 tortilla (6" diameter); 1 pancake (5" diameter); 1 ounce ready-to-eat cereal (about 1 cup cereal flakes).

63. Adapted from the Food Safety and Inspection Service (FSIS) guidance on whole-grain claims. Available at http://www.fsis.usda.gov/OPPDE/arc/Civms/Food_Guide_MyPyramid_dairy.pdf.

64. Products that bear the FDA health claim for whole grains have at least 51% or more of the total ingredients by weight as whole-grain ingredients, as well as meet other criteria.

Rationale for Recommendations

- Consuming whole grains helps meet nutrient needs.
 - ▣ Source of B vitamins, iron, magnesium, selenium, and dietary fiber
- *Moderate evidence** indicates that whole grain intake may reduce the risk of cardiovascular disease.
- *Moderate evidence** shows that adults who eat more whole grains, particularly those higher in dietary fiber, have a lower body weight compared to adults who eat fewer whole grains.
- *Limited evidence** also shows that consuming whole grains is associated with a reduced incidence of type 2 diabetes.

* Evidence statements based on the 2010 Dietary Guidelines Advisory Committee's systematic review on whole grains from June 2004 to November 2009. For more information, go to www.nutritionevidencelibrary.gov and www.dietaryguidelines.gov.

How Much?



- **“At least half of recommended total grain intake should be whole grains.”**
- Americans should aim to replace many refined grain foods with whole-grain foods that are in their nutrient-dense forms.
- Individuals may choose to consume more than half of their grains as whole grains.
 - To ensure nutrient adequacy, individuals who consume all of their grains as whole grains should include some that have been fortified with folic acid, such as some ready-to-eat whole-grain cereals. This is particularly important for women who are capable of becoming pregnant.

Recommendation Can be Met in a Number of Ways

You can...

- Eat at least half of one's grain-based foods as 100% wholegrain foods.
 - If the only grains in the ingredients list are whole grains, the food is a 100% wholegrain food.
 - The relative amount of grain in the food is also important and can be inferred by the placement of the grain in the ingredients list.
 - The whole grain should be the first ingredient or the second ingredient, after water.
 - For foods with multiple whole-grain ingredients, they should appear near the beginning of the ingredients list.

Recommendation Can be Met in a Number of Ways

- Foods that contain both whole grains and refined grains also can help people meet the whole grain recommendation, especially if a considerable proportion of the grain ingredients is whole grains.
- Examples of foods with a substantial amount of whole grains:
 - Foods with at least **51 percent of the total weight** as whole-grain ingredients, such as those foods with a **whole grains health claim**
 - Foods with at least **8 grams of whole grains per ounce-equivalent**◇

◇ 1 ounce-equivalent is: 1 one-ounce slice of bread; 1 ounce uncooked pasta or rice; ½ cup cooked rice, pasta, or cereal; 1 tortilla (6" diameter); 1 pancake (5" diameter); 1 ounce ready-to-eat cereal (about 1 cup of cereal flakes)

Recommendation Can be Met in a Number of Ways

FIGURE 4-1. Three Ways to Make at Least Half of Total Grains Whole Grains^a

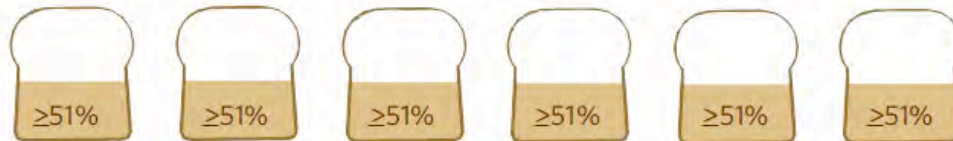
1. 3 ounces of 100% whole grains and 3 ounces of refined-grain products



2. 2 ounces of 100% whole grains, 2 ounces of partly whole-grain products,^b and 2 ounces of refined-grain products



3. 6 ounces of partly whole-grain products



Whole Grains – Part of a Healthy Eating Pattern



- Examines common elements of various healthy eating patterns, including DASH, Mediterranean patterns, and USDA food patterns.
 - *Many emphasize whole grains.*
- Concludes that a healthy eating pattern focuses on nutrient-dense foods, *including whole grains.*

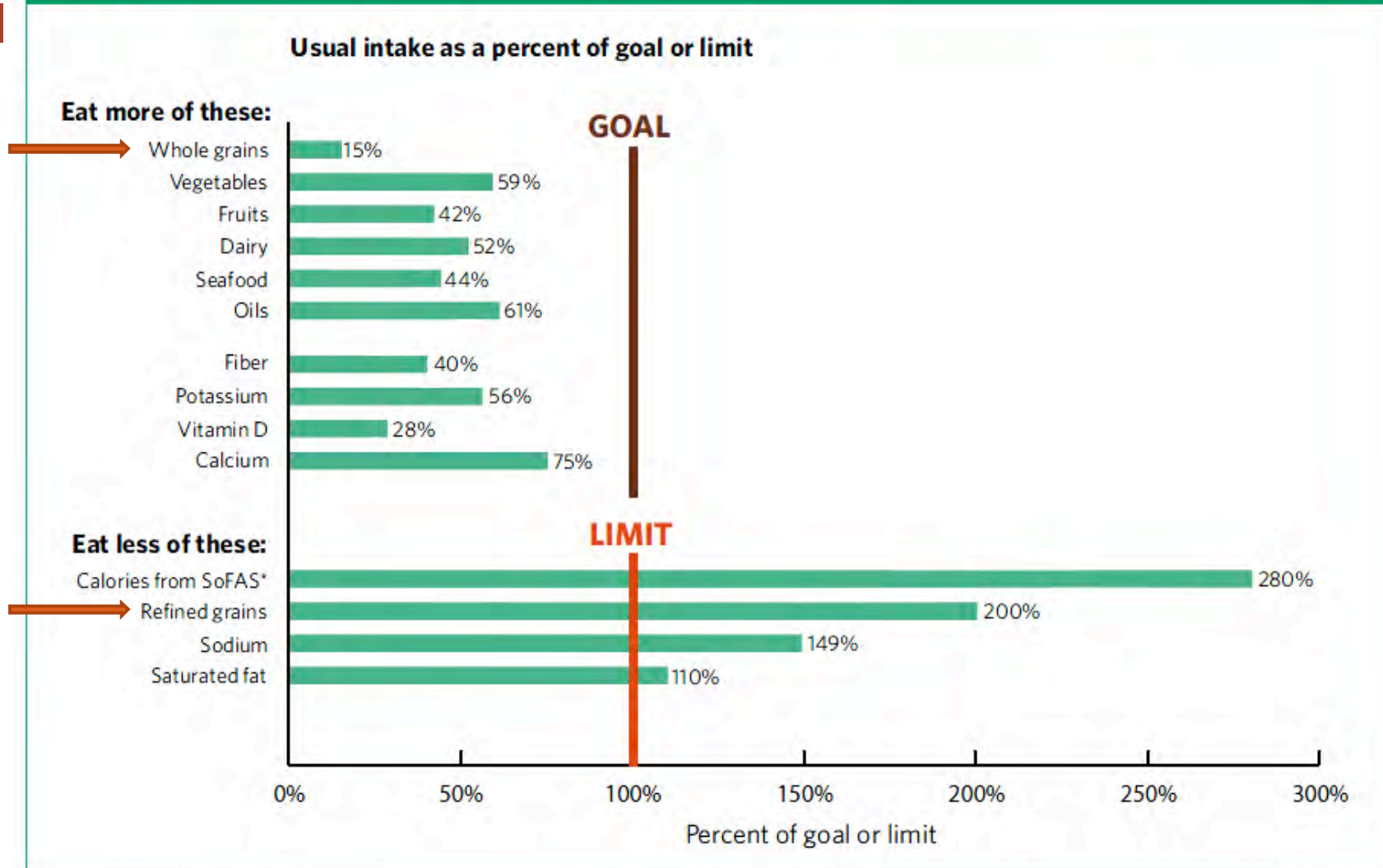
Current Intake Compared to Recommendations

- On average, Americans consume:
 - ▣ 6.4 ounce-equivalents of grains per day
 - ▣ 0.6 ounce-equivalents of whole grains per day

APPENDIX 7. USDA FOOD PATTERNS

Calorie level of pattern	1,000	1,200	1,400	1,600	1,800	2,000	2,200	2,400	2,600	2,800	3,000	3,200
Grains (oz-eq)	3	4	5	5	6	6	7	8	9	10	10	10
Whole grains	1 ½	2	2 ½	2 ½	3	3	3 ½	4	4 ½	5	5	5
Enriched grains	1 ½	2	2 ½	2 ½	3	3	3 ½	4	4 ½	5	5	5

FIGURE 5-1. How Do Typical American Diets Compare to Recommended Intake Levels or Limits?



Everyone Has a Role



- Meeting the goals of the *Dietary Guidelines for Americans* will require comprehensive and coordinated system-wide approaches across our Nation— approaches that engage every level of society and reshape the environment so that the healthy choices are the easy, accessible, and desirable choices for all.
- *Everyone has a role in the movement to make America healthy.*
- Sample action steps:
 - Expand access to grocery stores, farmers markets, and other outlets for healthy foods.
 - Initiate partnerships with food producers, suppliers, and retailers to promote the development and availability of appropriate portions of affordable, nutritious food products in food retail and foodservice establishments.

Appendix 2: Key Consumer Behaviors and Potential Strategies for Professionals to Use in Implementing the 2010 Dietary Guidelines

GRAINS		
WHOLE GRAINS	<p>Increase whole-grain intake.</p> <p>Consume at least half of all grains as whole grains.</p>	<p>Substitute whole-grain choices for refined grains in breakfast cereals, breads, crackers, rice, and pasta. For example, choose 100% whole-grain breads; whole-grain cereals such as oatmeal; whole-grain crackers and pasta; and brown rice.</p> <p>Check the ingredients list on product labels for the words “whole” or “whole grain” before the grain ingredient’s name.</p> <p>Note that foods labeled with the words “multi-grain,” “stone-ground,” “100% wheat,” “cracked wheat,” “seven-grain,” or “bran” are usually not 100% whole-grain products, and may not contain any whole grains.</p> <p>Use the Nutrition Facts label and the ingredients list to choose whole grains that are a good or excellent source of dietary fiber. Good sources of fiber contain 10 to 19 percent of the Daily Value per serving, and excellent sources of dietary fiber contain 20 percent or more.</p>
REFINED GRAINS	<p>Whenever possible, replace refined grains with whole grains.</p>	<p>Eat fewer refined grain products, especially those that are high in calories from solid fats and/or added sugars, such as cakes, cookies, other desserts, and pizza.</p> <p>Replace white bread, rolls, bagels, muffins, pasta, and rice with whole-grain versions.</p> <p>When choosing a refined grain, check the ingredients list to make sure it is made with enriched flour.</p>

Appendix 4: Using the Food Label to Track Calories, Nutrients, and Ingredients

- Includes a discussion of using the ingredients list to find out if a food contains whole grains.

TABLE A4-3. Examples of Whole Grains That Can Be Listed as an Ingredient

Brown rice	Whole-grain sorghum
Buckwheat	Whole-grain triticale
Bulgur (cracked wheat)	Whole-grain barley
Millet	Whole-grain corn
Oatmeal	Whole oats/oatmeal
Popcorn	Whole rye
Quinoa	Whole wheat
Rolled oats	Wild rice

Conclusion

- *Dietary Guidelines for Americans, 2010* continue the Federal emphasis on the importance of whole grains as a component of a healthy eating pattern.
- All elements of society, including individuals and families, communities, business and industry, and various levels of government, have a positive and productive role to play in the movement to make America healthy.

www.dietaryguidelines.gov

Proposed Rule to Update School Lunches and Breakfasts

- Released in Federal Register notice on January 13, 2011
- Currently in 90-day comment period until April 13, 2011 (comment at www.regulations.gov)
- New whole grains requirement:
 - At least ½ of grains offered during week must be whole grain-rich
 - 2 years post implementation, all grains offered must be whole grain-rich
 - Criteria to identify whole grain-rich products would be established by guidance and reflect temporary criterion provided by the IOM report
 - Incorporates the HealthierUS School Challenge criteria

School Meals: Building Blocks for Healthy Children

BOX 7-1

Temporary Criterion for Whole Grain-Rich Foods

Both elements of the criterion must be met for a food to qualify as a whole grain-rich food:

Element #1. *A serving of the food item must be at least the portion size of one Grains/Breads serving as defined in the USDA Food Buying Guide for Child Nutrition Programs (USDA/FNS, 2009c).*

AND

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

a. *The whole grains* per serving (based on minimum serving sizes specified for grains/breads in the USDA Food Buying Guide for Child Nutrition Programs) (USDA/FNS, 2009c) must be \geq 8 grams. This 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 (FDA)-approved whole grain health claim on its packaging. “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.”*

c. *Product ingredient listing lists whole grain 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)

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)

*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 exceeds the total weight of non-whole grain ingredients. Detailed instructions for this method appear in the *HealthierUS School Challenge Whole Grains Resource guide (USDA/FNS, 2009b)*.*

*Whole grain ingredients are those specified in the *HealthierUS School Challenge Whole Grain Resource guide (www.fns.usda.gov/TN/HealthierUS/wholegrainresource.pdf)*.

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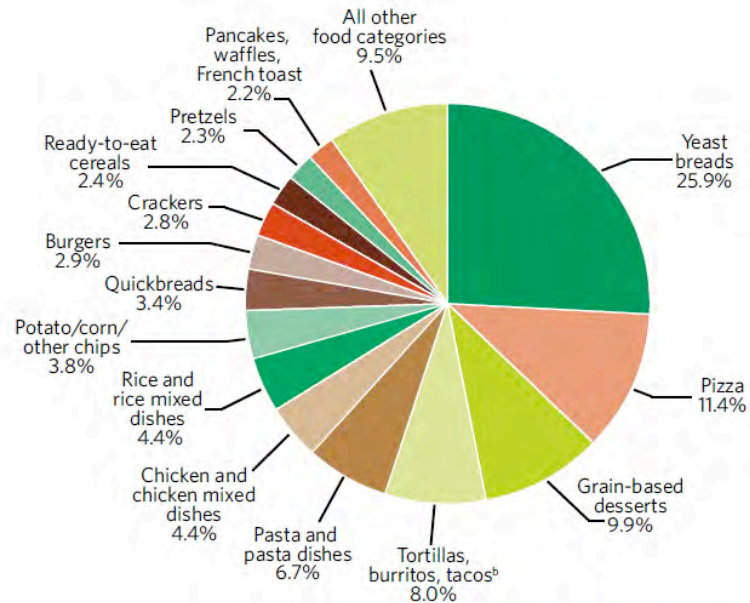
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Enriched grains are grain products with B vitamins (thiamin, riboflavin, niacin, folic acid) and iron added. Most refined-grain products are enriched.

TABLE 5-1. Eating Pattern Comparison: Usual U.S. Intake, Mediterranean, DASH, and USDA Food Patterns, Average Daily Intake at or Adjusted to a 2,000 Calorie Level

Pattern	Usual U.S. Intake Adults ^a	Mediterranean Patterns ^b Greece (G) Spain (S)	DASH ^b	USDA Food Pattern
Food Groups				
Vegetables: total (c)	1.6	1.2 (S) - 4.1 (G)	2.1	2.5
Dark-green (c)	0.1	nd ^c	nd	0.2
Beans and peas (c)	0.1	<0.1 (G) - 0.4 (S)	See protein foods	0.2
Red and orange (c)	0.4	nd	nd	0.8
Other (c)	0.5	nd	nd	0.6
Starchy (c)	0.5	nd - 0.6 (G)	nd	0.7
Fruit and juices (c)	1.0	1.4 (S) - 2.5 (G) (including nuts)	2.5	2.0
Grains: total (oz)	6.4	2.0 (S) - 5.4 (G)	7.3	6.0
Whole grains (oz)	0.6	nd	3.9	≥3.0
Milk and milk products (Dairy products) (c)	1.5	1.0 (G) - 2.1 (S)	2.6	3.0
Protein foods:				
Meat (oz)	2.5	3.5 (G) - 3.6 (S) (including poultry)	1.4	1.8
Poultry (oz)	1.2	nd	1.7	1.5
Eggs (oz)	0.4	nd - 1.9 (S)	nd	0.4
Fish/seafood (oz)	0.5	0.8 (G) - 2.4 (S)	1.4	1.2
Beans and peas (oz)	See vegetables	See vegetables	0.4 (0.1 c)	See vegetables
Nuts, seeds, and soy products (oz)	0.5	See fruits	0.9	0.6
Oils (g)	18	19 (S) - 40 (G)	25	27
Solid fats (g)	43	nd	nd	16 ^d
Added sugars (g)	79	nd - 24 (G)	12	32 ^d
Alcohol (g)	9.9	7.1 (S) - 7.9 (G)	nd	nd ^e

FIGURE 3-7. Sources of Refined Grains in the Diets of the U.S. Population Ages 2 Years and Older, NHANES 2003-2004^a



a. Data are drawn from analyses of usual dietary intake conducted by the National Cancer Institute. Foods and beverages consumed were divided into 97 categories and ranked according to refined grain contribution to the diet. "All other food categories" represents food categories that each contributes less than 2% of the total intake of refined grains.

b. Also includes nachos, quesadillas, and other Mexican mixed dishes.

Source: National Cancer Institute. Sources of refined grains in the diets of the U.S. population ages 2 years and older, NHANES 2003-2004. Risk Factor Monitoring and Methods. Cancer Control and Population Sciences. http://riskfactor.cancer.gov/diet/foodsources/food_groups/table3.html. Accessed August 11, 2010.

- Major sources of refined grains in the diets of Americans are yeast breads (26% of total refined grain intake); pizza (11%); grain-based desserts (10%); and tortillas, burritos, and tacos (8%) (Figure 3-7).