WHOLE GRAINS

Why should I choose whole grains?
Consuming whole grains may reduce the risk of:
1. Heart disease
2. Diabetes
3. Gastrointestinal cancers (colon, rectum, and small intestine)

Whole grains also can help you maintain a healthy body weight. Whole grains contain fiber, which reduces constipation, aids in reducing blood cholesterol levels and in managing blood glucose, and keeps you full longer.

How do whole grains differ from refined grains?
Grains are the seeds of grasses. Whole grains are grains that have all parts of the kernel.

• Bran: outer portion of the grain containing fiber, B vitamins, minerals, and phytochemicals

• Germ: small, inner portion of the grain containing B vitamins and vitamin E, antioxidants, phytochemicals, and minerals

• Endosperm: the starchy inner portion of the grain containing carbohydrates, protein, and B vitamins

Whole grains differ from refined grains due to processing. Refined grains contain only the endosperm. Because the bran and germ are removed in refined grains, the amount of protein, fiber, and other important nutrients are reduced. Often, refined grains are “enriched,” meaning the lost nutrients are added back, but usually not to the same level as found in the original whole grain kernel.

It’s important to remember that not all foods that contain fiber are whole grain foods.

How many whole grains should I eat daily?
Start by replacing some of your refined grains with a whole grain alternative.

• 2010 Dietary Guidelines for Americans recommend that half of your grains be whole grains (3 servings daily).

• 1 serving of whole grains = 16g whole grains

Examples of a serving of whole grains include:
1 slice of whole wheat bread, 1 cup cold cereal, ½ cup cooked cereal, 5 whole wheat crackers, 3 cups of popcorn, ½ cup cooked brown rice

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Incorporating whole grains into your meals

Examples include rolled oats, brown rice, 100 percent whole wheat or stone ground wheat, popcorn, quinoa, whole wheat pasta/bread/crackers, and whole corn.

(continued on back page)
## WHOLE GRAINS

### TYPES OF WHOLE GRAINS (1 CUP)

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<th>Grain Type</th>
<th>Description</th>
<th>Liquid (per cup of grain)</th>
<th>Basic Cooking Directions</th>
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<tr>
<td>AMARANTH</td>
<td>Tiny beige seeds that cook up into a delicate, slightly gelatinous porridge.</td>
<td>3 cups water or broth</td>
<td>Bring liquid and amaranth to a boil. Reduce heat to low and cover. Cook and stir occasionally until thick, 20-25 minutes.</td>
<td>3 cups</td>
<td>Gluten-free. Rich in calcium and iron.</td>
<td>180 calories; 7g protein; 7g fiber</td>
<td>For breakfast, top with fruit, honey, and yogurt or serve as a savory side dish.</td>
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<td>BARLEY</td>
<td>An ancient grain originally from the Middle East. Most of the crop grown in the United States is used for animal fodder and to make beer and whiskey.</td>
<td>4 cups water or broth</td>
<td>Bring barley and liquid to a boil. Reduce heat to low; simmer covered till grains are tender, 60-75 minutes. Drain.</td>
<td>3 cups</td>
<td>Healthiest form: germ and bran are intact.</td>
<td>170 calories; 6g protein; 8g fiber</td>
<td>Contains gluten. Provides B-glucan, which may help reduce LDL cholesterol.</td>
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<tr>
<td>HULLED BARLEY</td>
<td>Barley kernels are intact but the outer (inedible) husk has been removed.</td>
<td>3 cups water or broth</td>
<td>Bring barley and liquid to a boil. Reduce heat to low; simmer covered, till most liquid is absorbed, 40-45 minutes.</td>
<td>¾ cups</td>
<td>Rich in fiber and nutrients.</td>
<td>176 calories; 5g protein; 8g fiber</td>
<td>Add to soups and stews. Stir sautéed mushrooms and parsley into cooked barley for a side dish. Toss cooked barley with black beans, red bell pepper, corn, and a lime-cumin dressing for a salad.</td>
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<td>PEARL BARLEY</td>
<td>Kernels, polished to remove hull and bran. Not a true whole grain, but nutritious.</td>
<td>1¼ cups water or broth</td>
<td>Bring liquid to a boil; add barley. Reduce heat to low and simmer, covered, 10-12 minutes.</td>
<td>2 cups</td>
<td>Makes a quick, healthy side dish.</td>
<td>128 calories; 4g protein; 4g fiber</td>
<td>Enjoy cornmeal “mush” for breakfast topped with maple syrup. Savory cornmeal “mush” is called polenta. Serve with any tomato pasta sauce.</td>
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<tr>
<td>CORNMEAL</td>
<td>Ground, dried corn kernels popular in baked goods. Can be cooked into a creamy mush. Choose stone-ground cornmeal, which retains some hull and germ. Regular cornmeal is degemmed and is not a whole grain.</td>
<td>4 cups water or broth</td>
<td>Mix cornmeal and 1 cup cold liquid until smooth. Bring remaining liquid to a boil. Add cornmeal mixture and return to a boil, whisking. Reduce heat to low and cook, uncovered, whisking often, until creamy and thick, 20-30 minutes.</td>
<td>3 cups</td>
<td>Gluten-free. Contains fiber, potassium, and folic acid. Yellow cornmeal contains carotenoids.</td>
<td>110 calories; 2g protein; 5g fiber</td>
<td>Enjoy cornmeal “mush” as a side dish. Toss cooked barley or couscous. After cooking, stir in chopped fresh parsley and freshly grated lemon zest for a side dish. Make quinoa salad with scallions, cherry tomatoes, green beans or asparagus and lemon dressing.</td>
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<td>QUINOA</td>
<td>Tiny seeds with delicate flavor. Typically ivory but red and black varieties also available. An inherent insect repellent (sapotin) must be removed from seeds prior to cooking (removed from most commercially packaged quinoa).</td>
<td>2 cups water or broth</td>
<td>Rinse thoroughly in several changes of water. Combine quinoa and liquid; bring to a boil. Reduce heat to low and simmer, covered, until most liquid has been absorbed, 12-15 minutes. Let stand 5 minutes.</td>
<td>3 cups</td>
<td>Gluten-free. A complete protein. Rich in iron, potassium, riboflavin, and B vitamins.</td>
<td>160 calories; 6g protein; 2g fiber</td>
<td>After cooking, stir in chopped fresh parsley and freshly grated lemon zest for a side dish. Make quinoa salad with scallions, cherry tomatoes, green beans or asparagus and lemon dressing.</td>
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<td>MILLET</td>
<td>Small yellow kernels that create a texture between a pilaf and porridge. A nutritious, mild grain.</td>
<td>2½ cups water</td>
<td>Combine millet and liquid. Bring to a simmer. Reduce heat to low and cook, covered, till most of the liquid is absorbed, 25-30 minutes.</td>
<td>3 cups</td>
<td>Gluten free. Rich in B vitamins.</td>
<td>189 calories; 5.5g protein; 4g fiber</td>
<td>An interesting alternative to rice or couscous. After cooking, stir in reduced-fat cheese.</td>
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<tr>
<td>RICE</td>
<td>Choose brown rice. Only the outermost hull is removed, so the bran and germ are intact. In addition to types listed below, many brown rice convenience foods such as instant or boil-in-a-bag are available; prepare using directions given.</td>
<td>2½ cups water</td>
<td>Bring rice and water to a boil. Reduce heat to low and simmer, covered, until most of the liquid is absorbed, 40-50 minutes.</td>
<td>2½ cups</td>
<td>See Above</td>
<td>171 calories; 4g protein; 2g fiber</td>
<td>Use as a side-dish to accompany stir-fries and other main dishes. Embellish with toasted sesame seeds and low sodium soy sauce. Try leftover brown rice in a salad with tuna, carrots, dill, and lemon dressing.</td>
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<td>BROWN RICE</td>
<td>Short, medium, and long-grain varieties are available. Cooking directions for each type are similar.</td>
<td>2½ cups water</td>
<td>Bring rice and water to a boil. Reduce heat to low and simmer, covered, until most of the liquid is absorbed, 40-50 minutes.</td>
<td>2½ cups</td>
<td>See Above</td>
<td>170 calories; 4g protein; 2g fiber</td>
<td>See Above</td>
</tr>
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<td>PAR-BOILED BROWN RICE</td>
<td>Often labeled as natural whole-grain brown rice, it goes through a process to ensure firm, separate grains.</td>
<td>2½ cups water or broth</td>
<td>Bring rice and liquid to a boil. Reduce heat to low and simmer, covered, until most of the liquid has been absorbed, about 30 minutes.</td>
<td>3 cups</td>
<td>See Above</td>
<td>170 calories; 4g protein; 2g fiber</td>
<td>See Above</td>
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### Types of Whole Grains

**Oats**: A resilient grain that has long been cultivated in Europe. The tough outer husk must be removed before oats are processed into the forms below. 

| Oats | Entire Kernel minus the inedible husk. Individual oat groats remain separate when cooked (like brown rice). Chewy texture; nutty flavor. | 3 cups water | Bring liquid to a boil. Add oats and reduce heat to low. Simmer, covered, stirring occasionally, until oats are tender, 45-50 minutes. Drain. | 2 1/4 cups | Most whole, therefore most nutritious, form of oats. | 160 calories; 7g protein; 4g fiber | Try in a savory stuffing with onion, celery, apple, and poultry seasoning. |

| Steel-Cut Oats | Oat groats that have been cut into pieces by steel blades (hence, steel-cut). | 3 cups water | Boil liquid. Add oats; reduce heat to low. Simmer, covered, stirring occasionally, 30-35 min. Let stand 5 min. | 2 1/4 cups | Minimally processed. | 140 calories; 6g protein; 4g fiber | Cook dried fruit with oats. Top with low-fat milk, yogurt, and brown sugar or maple syrup, and toasted nuts. |

| Old-Fashioned Rolled Oats | Oat groats that have been steamed and rolled into flakes. Quick-cooking oats rolled thinner to cook faster. | 1 1/4 cups water or half water/half milk | Bring liquid to a boil. Stir in oats. Reduce heat to low; simmer, uncovered, stirring often, till thick, about 5 min. Let stand for a few min. | 1 1/2 cups | A convenient, healthy breakfast choice. | 80 calories; 3.5g protein; 2g fiber | |

| Teff | Miniscule brown seeds in whole grain or flour form. Flavor similar to chocolate. | 3 cups water | Bring liquid to a boil. Add teff; simmer, uncovered, stirring frequently, till thick, 15-20 min. | 2 1/4 cups | Gluten-free. Good source of calcium and iron. | 180 calories; 7g protein; 4g fiber | Serve as a breakfast porridge or a savory polenta-like side dish. Tasty with spicy stews. |

| Wheat Berries | Whole kernels with outer husk removed. Nutty flavor and chewy texture. Use hard and soft berries interchangeably. | 2 cups water or broth | Combine farro and liquid; bring to a boil. Reduce heat to low and simmer, covered, until most of the liquid has been absorbed, about 25 min. | 2 cups | See Above | 150 calories; 6g protein; 2g fiber | Add to soups. Serve as a side dish in place of rice. Add to a salad with apples, celery, nuts, and vinaigrette. |

| Kamut | Larger kernels than regular wheat. | 4 cups water | Combine kamut and liquid; boil. Reduce heat, simmer covered, till tender, 50-60 min. Drain. | 2 cups | See Above | 170 calories; 6g protein; 5g fiber | Add to a salad with citrus dressing, onion, oranges, and cranberries. |

| Whole-Wheat Couscous | Tiny pasta made from semolina; not a grain. Pre-cooked and dried; only need to plump before serving. | 1 1/4 cup water, broth, or milk | Boil liquid; stir in couscous. Remove from heat and let stand, covered, 5 min. Fluff with a fork. Whole wheat variety cooks as fast as white. | 3 cups | See Above | 105 calories; 4g protein; 4g fiber | Add raisins and toasted almonds for a side dish. Plump in milk with dates and honey for breakfast porridge. |

| Wild Rice | Not a true grain or rice (actually an aquatic grass) but offers similar nutritional benefits as whole grains. | 3 cups water | Rinse. Bring wild rice and liquid to a boil. Reduce heat to low and simmer, covered, till grains are tender (many will split open), 45-50 minutes. Drain. | 2 1/2 cups | Gluten-free. Rich in minerals, fiber, and B vitamins. | 143 calories; 6g protein; 2.5g fiber | Stir in dried fruit and top with toasted nuts, or stir in sautéed mushrooms and parsley. |


**RECIPE**

### Raisin Strudel Oatmeal

**Ingredients:**
- ¼ cup instant oatmeal
- ¼ cup boiling water
- 1 tablespoon raisins
- 1 teaspoon brown sugar
- ¼ teaspoon cinnamon
- 2 tablespoons skim milk
- 1 tablespoon low-fat granola

**Instructions:**
1. Place oatmeal, raisins, brown sugar, and cinnamon in a coffee mug or cereal bowl.
2. Pour boiling water over all. Stir and steep for 2 minutes.
3. Top with skim milk and low-fat granola.

“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.”- The Food and Drug Administration

Source: Available at http://recipes.extension.iastate.edu/2010/08/22/raisin-strudel-oatmeal/

**Nutritional Analysis:** 120 calories, 1g total fat, 0g saturated fat, 0mg cholesterol, 60mg sodium, 26g total carbohydrate, 2g fiber, 13g sugar, 3g protein

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**How do I identify a whole grain food?**

**Three steps to three servings of whole grains:**

1. **Front of package** - Check the front of the package for key terms such as “100% whole grain,” “whole oats,” “made with whole wheat.”

2. **Ingredients** - Read the list of ingredients; one of the first three should contain key terms such as “100% whole wheat,” “stone ground whole wheat,” “whole rye flour,” “whole oats,” “whole wheat flour,” “brown rice,” or “wheat berries.”

3. **Extra claims and logos** - Examine the other panels for extra whole grain health claims or whole grain stamps/symbols that will support your decision.

If the food item is qualified to use the FDA-approved health claim (as quoted above), then that product must contain 51 percent or more of whole grain ingredients.

**Types of whole grain stamps:**

1. **Basic “whole grain” stamp** - The product contains at least 8 grams (a half serving) of whole grains, but refined grains also may be included.

2. **“100% whole grain” stamp** - All of the grain ingredients are whole grain, and it must contain a minimum of 16 grams (1 serving) of whole grains.

Not all foods made with whole grains contain the Whole Grains Council stamp on the package due to an extra expense required on behalf of the manufacturer. It is important to pay extra attention to the front of the package and the ingredients list.

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