

# Healthful Whole Grains!

FACT SHEET

**K-STATE**  
Research and Extension

Have you been looking for nutritious foods that satisfy your hunger? Whole-grain foods are a great choice. Would you be willing to eat more whole-grain foods if they would help reduce your risk for heart disease and cancer? Research shows that health benefits and great taste move many people to choose whole-grain foods.

## Delicious, Easy to Prepare, and Affordable

Whole-grain products can readily be included in your daily diet. Whole grains have a subtle taste that is often described as “nutty.”

You have many options for adding a delicious whole-grain food to each meal without spending a lot of time or money to do so. Whole-grain yeast breads, ready-to-eat breakfast cereals, cooked oatmeal, popcorn, and whole-grain crackers are the most common whole-grain foods. The most inexpensive whole grains generally are large containers of store-brand oatmeal, breakfast cereals, popcorn, crackers, and breads.

## The Whole Grain Benefit

There are many kinds of whole grains: whole wheat, oats, cornmeal, popcorn, barley, brown rice, and others. Different whole grains provide different health benefits.

Whole grains provide energy for daily activities and reduce the risk of developing many major diseases.

Each individual part of the grain is healthful. But eating the entire grain allows the beneficial factors of all three parts to work together. Thus, the overall benefits exceed those that come from eating just certain parts.

## COMMON TYPES OF WHOLE GRAINS

- » Brown rice (regular, quick)
- » Oatmeal, whole or rolled oats (regular, quick, instant)
- » Popcorn
- » Whole-grain corn or cornmeal (yellow and white)
- » Whole wheat
- » Wild rice

## LESS COMMON TYPES OF WHOLE GRAINS

- » Amaranth
- » Buckwheat or kasha, buckwheat groats
- » Cracked wheat, also called bulgur (in many products, this is not the first ingredient)
- » Millet
- » Quinoa
- » Spelt
- » Teff
- » Triticale
- » Whole-grain barley
- » Whole rye



# 100% WHOLE GRAIN

## Identify Whole-grain Foods When Shopping

- Look for the words “whole grain” in large letters on the package.
- Look for a whole grain health claim on the package. Products that contain 51 percent or more of whole-grain ingredients by weight may make the following FDA-approved health claim: “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 certain cancers.”

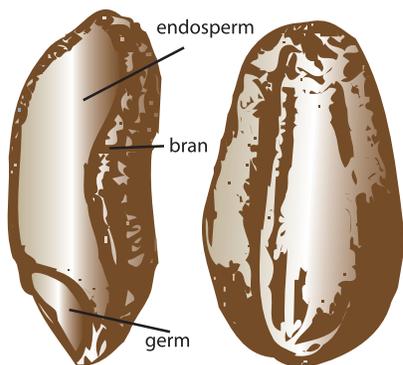
Whole-grain oat or psyllium foods may also claim that “soluble fiber, as part of a diet low in saturated fat and cholesterol, may reduce the risk of heart disease.”

- On the list of ingredients shown on the package, the first ingredient listed is present in the highest quantity by weight. Look for the word “whole” in front of a grain to be named first on the label’s ingredient list, such as “whole wheat,” if you want to get a food that is high in whole grains.
- A food’s color is not helpful in identifying whether it contains whole grain ingredients. Dark or brown bread is often a whole-grain food, but it may just have molasses or caramel food coloring added. Alternatively, whole-grain foods may be light in color, such as those made from oats or white wheat.

## What Are Whole Grains?

Whole-grain foods contain all three parts of the grain: the bran, the endosperm, and germ.

- The outer bran layer is full of fiber, B vitamins, 50 to 80 percent of the grain’s minerals, and other health-promoting plant substances called phytochemicals.
- The large endosperm portion is full of complex carbohydrates, protein, and smaller amounts of B vitamins.
- The third part is the germ, which is full of B vitamins, vitamin E, trace minerals, and healthful unsaturated fats, phytochemicals, and antioxidants.



If all three parts of the grain are present in processed foods, they are considered whole grain. By comparison, refined grain foods contain only the endosperm. When the germ and bran portions are removed during milling, the nutrient content is reduced by 25 to 90 percent. Most refined grain foods are enriched with some of the nutrients lost in milling.

## Phrases That Do Not Mean Whole Grain

People who want to start eating more whole-grain foods are often unsure how to find them. The key is knowing which words to look for and which ones are not helpful.

- “100% wheat.” This phrase means that the only grain contained in the product is wheat. The food may not contain whole wheat.
- “Multigrain.” A word that means the product contains more than one kind of grain. The food may not contain whole grains, however.
- “Stone ground.” This term refers to grain that is coarsely ground and may contain the germ, but not the bran. Often, refined flour is the first ingredient, not whole-grain flour.
- “Pumpernickel” is coarse, dark bread made with rye and wheat flours. In the United States, it usually does not contain mostly whole grain flours.

## Dietary Recommendations

Healthy eating patterns include whole grains and limit the intake of refined grains and foods made with refined grains. Americans typically do eat the recommended amount of grain foods per day. However, most of the grain foods people eat are made with refined grain rather than whole grain. Individuals who eat refined grains should choose enriched grains — those grain foods that have added back the nutrients iron and four B-vitamins (thiamin, riboflavin, niacin, and folic acid). Most refined grains are enriched, but still lack fiber and other important nutrients.

The 2015-2020 edition of the Dietary Guidelines for Americans recommends that people “shift to make half of all grains we eat be whole grains.” Healthy People 2020 Nutrition and Weight Status objectives urge Americans to “consume a variety of nutrient-dense foods within and across the food groups,” including whole grains.

You can enjoy the great taste of whole grains and satisfy your hunger, too. You may be surprised at how easy it is to increase the variety of whole-grain foods eaten each day.

## Health Benefits of Whole Grains

Most Americans do not know about the many health benefits of eating just one, two, or three extra servings of whole-grain foods each day.

You can influence your wellness level by eating a healthful diet. By choosing a variety of whole-grain products each day, you will reap many natural health benefits now, plus reduce your risk of many major chronic diseases in the future. Indeed, eating whole-grain foods is associated with a 15- to 25-percent reduction in premature death from all causes.

Choose plenty of healthful whole grains if you want to reduce your risk for:

- Bowel disorders
- Cancer
- Heart disease and high cholesterol
- Stroke
- High blood pressure
- Obesity
- Type 2 diabetes

### Whole-grain Nutrients

Eating a variety of whole grains each day will help ensure that you get the nutrients needed to stay healthy.

- All types of grain foods are excellent sources of complex carbohydrates. Nutrition experts recommend that people eat most of their daily calories as carbohydrates, especially complex ones. They supply energy for daily activities.
- Whole grains are low in fat, and because they are from plants they have no cholesterol.
- They are high in fiber, plant protein, vitamins, minerals, phytonutrients, antioxidants, resistant

starch, phytate, and many other healthful substances.

- Whole grains provide many of the nutrients that are low in America's diet, including fiber, B vitamins, vitamin E, and the minerals selenium, zinc, copper, and magnesium.
- There is a long list of other naturally occurring substances in whole grains, besides soluble and insoluble fiber. Some of them are: tocopherols, beta-carotene, vitamin C, folate, glutamine, phytoestrogens, lignans, flavonoids, oligosaccharides, inositol, phenolics, saponins, lectins, and protease and amylase inhibitors. These healthful factors may help prevent diseases from developing, lower blood cholesterol, stabilize blood sugar, or improve immune function.

### Whole Grains Known for High Fiber

Two kinds of dietary fiber are in whole grains: soluble and insoluble. Oats and barley are high in soluble dietary fiber. An easy way to increase both types of fiber in your diet is by choosing ready-to-eat or ready-to-cook whole-grain breakfast cereals and whole-wheat bread.

Whole-grain cereals have three to seven times more fiber per serving than refined cereals. Whole-wheat breads have about four to six times more fiber per slice than white bread.

### Whole Grains Contain Disease-Fighting Phytochemicals

Phytochemicals are naturally occurring plant chemicals found in whole grains, fruits, vegetables, legumes, and other plant foods.

Whole grain foods have up to five times more antioxidant activity than do common vegetables, fruits, or white bread.



Consuming a wide range of antioxidants is important, since different antioxidants protect against cell damage in different ways.

Some whole-grain antioxidants act as tumor growth suppressants. Another antioxidant, vitamin E, (especially the potent form called tocotrienol, believed to support healthy cholesterol levels and promote healthy cell growth), is found in large amounts in whole-grain oats and barley.

## Reducing Health Risks

### Bowel Disorders and Colon Cancer

Eating whole-grain foods protects against constipation, hemorrhoids, and diverticulosis. Whole grains increase stool weight and decrease transit time through the gut. This reduces the length of time the bowels are in contact with waste products. Whole grains improve antioxidant activity and strengthen the surface cells of the colon. They also increase the immune function of the gut.

### Cancer

In an analysis of 45 studies of 20 types of cancer, whole grains had a protective effect in 43 of them. Researchers looked at various types of cancer, such as cancer of the colon, rectum, stomach, pancreas, endometrium, ovaries, and prostate.

### Heart Disease and Stroke

Eating three servings of whole grains per day, increasing cereal fiber intake by 10 grams per day, and eating oat cereals five times or more a week have all been shown to reduce heart disease and stroke rates.

Even choosing to eat just one serving of whole-grain foods per day, compared to eating them once a week or less often, is beneficial for the heart and circulatory system.

Whole-grain foods help decrease cholesterol levels, blood pressure, and blood coagulation.

Whole-grain oats are especially helpful in lowering cholesterol levels.

### Obesity

Whole grains are high in complex carbohydrates and fiber. They help you feel full and delay hunger. Choose several servings of whole-grain foods each day, eat other healthful foods, and keep active.

### Type 2 Diabetes

Eating about three servings a day of whole-grain foods reduces the risk of type 2 diabetes, and may improve blood sugar control in people who already have diabetes. Soluble fiber delays stomach emptying and nutrient absorption, reducing the rise in glucose and insulin.

## Summary

Many kinds of foods contain whole grains. By reading the package, you can identify whole-grain foods. They are delicious, easy to prepare, affordable, and portable. They are healthy, too! You can readily eat a variety of whole-grain foods throughout a day. For example, have a whole-grain cereal for breakfast, and perhaps choose whole-grain breads, pasta, or tortillas for lunch or supper. Try a whole-grain snack such as popcorn or whole-grain crackers. You can make simple changes in your food choices that will satisfy your hunger healthfully.

### For More Information About Whole Grains Visit:

<http://www.ksre.k-state.edu/humannutrition/nutrition-topics/healthywhole-grains.html> for recipes, links, and reference materials.



## WAYS TO ADD MORE WHOLE GRAINS TO MEALS AND SNACKS

### Which ideas might work for you?

- Choose a quick and easy ready-to-eat or ready-to-cook whole-grain cereal for breakfast. (More than 30 whole-grain breakfast cereals are distributed nationally.)
- Pour some dry, bite-size cereals into a bag, or grab a whole-grain cereal bar to take along with you for a snack.
- Choose whole-grain breads, tortillas, bagels, pita pockets, and rolls.
- Try whole-grain muffins or cornbread made with whole-grain corn meal.
- Pop popcorn.
- Enjoy low-fat whole-grain crackers, baked tortilla chips, or a brown rice cake as a snack.
- Add whole grains to mixed dishes. Try adding some pearl barley, or wild or brown rice to your favorite soup, stew, or casserole.
- Add oats to cookies or other desserts.
- Try substituting whole-grain flour for one-fourth to one-half of the white flour called for in recipes.
- Choose whole-grain pasta (macaroni, spaghetti, noodles), pancakes, or waffles for a change of pace.
- Try a hot or cold whole-grain side dish (such as pilaf or stuffing) using brown or wild rice, kasha, quinoa, or pearl barley.

Have another idea? Write it here.

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## OUNCE EQUIVALENTS OF WHOLE GRAIN FOODS

Within the grains group, foods come in many forms and are “not created equal” in how they count as a cup or an ounce. Some foods are more concentrated while others are more airy or perhaps contain more water. Below are listed amounts that equal 1 ounce-equivalent of grains.

### **Whole-grain cereals:**

1/2 cup cooked or 1 ounce of ready-to-eat cereal

### **Whole-grain breads:**

1 slice

### **Whole-grain tortillas, muffins, waffles, or pancakes:**

1 small

### **Popcorn:**

2 cups

### **Whole-grain crackers:**

5 to 7 small crackers

### **Whole-grain bagel, pita bread:**

1/2 piece

### **Brown rice, whole-grain pasta:**

1/2 cup, cooked

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## Research and Extension

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