



# GRAINS of TRUTH

## Fiber

### Definitions

It has been called bulk or roughage, but today we call it fiber. Fiber is a general term for the indigestible part of plant foods. It provides almost no energy or calories, yet is an important part of a healthful diet. Whole grain products, fruits, legumes and vegetables are significant sources of fiber. In contrast, virtually no fiber is present in dairy products, meat, poultry, fish, fats and sweeteners. Cooking, freezing, canning and other preservation methods have little effect on fiber content.

There are two types of dietary fiber: soluble and insoluble.

### What is the difference?

Insoluble fiber passes through your digestive tract largely intact. Soluble fiber forms a gel when mixed with liquid, while insoluble fiber does not. Both types of fiber are important in the diet and provide benefits to the digestive system by helping to maintain regularity.

**INSOLUBLE FIBER:** Insoluble fiber is found in foods such as wheat bran, other whole grains, vegetables and seeds. Foods containing insoluble fiber:

- May aid in weight control if high-fiber foods are substituted for high-fat, high calorie foods. High-fiber foods take longer to chew and provide a feeling of fullness that lingers longer, so you feel full a greater amount of time. Additionally, high fiber diets tend to be less “energy dense,” which means they have fewer calories for the same volume of food, therefore aiding in weight control.
- Prevent constipation, relieve hemorrhoids and prevent diverticular disease by absorbing water and moving intestinal contents more quickly. Generally, the less processed the fiber source, the greater the laxative effect.
- Prevent diarrhea by normalizing the stools.

**SOLUBLE FIBER:** Soluble fiber is found in legumes, various brans (oat, rice, barley and corn), white flour products (white bread, bagels, pasta, etc.) and some fruits and vegetables. Foods containing soluble fiber:

- Help lower blood cholesterol in some people when eaten as a part of a low-fat diet, thus decreasing the risk for heart disease.
- May aid in control of blood sugar in people with diabetes and help reduce their insulin requirement. However, diabetics should follow a high fiber diet only under medical supervision.

### Daily consumption

Selecting good tasting foods that provide fiber is not difficult. Selecting these high fiber diets are the key to regular bowel movements and are believed to help reduce health risks, including obesity and possibly high blood cholesterol. In fact, the Food and Drug Administration has authorized food companies to use the health claim for soluble fiber from both psyllium and oats. For example, the new claim for psyllium states, “Soluble fiber from foods with psyllium husk, as part of a diet low in saturated fat and cholesterol, may reduce the risk of heart disease.”

The National Academy of Sciences recommends a daily dose of 25 grams for women and 38 grams for men under age 50. As for adults 50 and over, 21 grams for women and 30 grams for men is a day’s supply. According to the American Dietetic Association, dietary fiber intake continues to be less than recommended levels in the United States with intakes averaging only 14 to 15 grams/day.<sup>1</sup>

An adequate amount for a healthy individual can be obtained by following the seventh edition of the “Dietary Guidelines for Americans.” To help achieve the recommended amount of fiber, the dietary guidelines recommend (based on a reference of 2,000 calorie intake/day) 2 1/2 cups of vegetables and fruits per day; 6 ounces from the grains group, with at least half of them coming from whole grains.

Although rare on a mixed diet, too much fiber can be a problem. Calcium, iron, zinc and magnesium are poorly absorbed with excessive fiber consumption.

### Adding fiber

- Eat 6 ounces each day of bread, cereal, rice and pasta, making sure at least half of them are whole grains.
- Choose a variety of fiber-rich foods such as fruits, vegetables and whole grains instead of fiber supplements.
- Add bran to muffins, pancake or waffle batters, casseroles, breakfast cereals, and 1% or fat-free yogurt.
- Boost the fiber in cereals by adding fresh fruit.
- Choose whole grain baked goods with seeds, raisins or other dried fruit.





Wheat Foods Council

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Foods differ in the amount and type of dietary fiber. Many foods contain a combination of insoluble and soluble fiber. The fiber content of fruits and vegetables varies depending upon the season, growing conditions, ripeness and storage.

### References:

1) Journal of The American Dietetic Association; (2008) Position of the American Dietetic Association: Health implications of dietary fiber; 108(10): 1716-1731

## Fiber finder

FOOD	ONE SERVING	TOTAL FIBER PER SERVING	FOOD	ONE SERVING	TOTAL FIBER PER SERVING
<b>CEREALS</b>			<b>VEGETABLES</b>		
All-Bran®,	1 oz. 1/3 cup	8.5 grams	Potatoes, w/skin	1 medium	4.7 grams
Corn Bran,	1 oz. 2/3 cup	5.4 grams	Peas, cooked	1/2 cup	4.0 grams
Bulgur, cooked	1/2 cup	4.1 grams	Carrots, raw	1 medium	2.3 grams
40% Bran Flakes,	1 oz. 3/4 cup	4.0 grams	Broccoli, cooked	1/2 cup	2.3 grams
Shredded Wheat,	1 oz. 2/3 cup	3.1 grams	Tomato, fresh	1 medium	1.5 grams
Wheaties®, 1 oz.	1 cup	3.0 grams	Corn, canned	1/2 cup	1.1 grams
Oatmeal, cooked	1/2 cup	2.0 grams	Celery, diced	1/2 cup	1.1 grams
Green beans, cooked	1/2 cup	1.0 grams	Lettuce, chopped	1 cup	0.8 grams
<b>FRUITS</b>			<b>GRAINS</b>		
Prunes, stewed	1/2 cup	4.5 grams	Bran Muffin	1 average	2.5 grams
Apple, with skin	1	3.1 grams	Whole Wheat Bread*	1 slice	2.1 grams
Orange, average	1	3.1 grams	Wheat Berries, cooked	1/2 cup	1.7 grams
Peach, w/skin, avg.	1	2.3 grams	Rice, brown, cooked	1/2 cup	1.7 grams
Strawberries	1/2 cup	2.0 grams	Spaghetti	1/2 cup	1.1 grams
<b>LEGUMES</b>			White Bread	1 slice	0.5 grams
Kidney Beans, cooked	1/2 cup	8.2 grams	Rice, polished, cooked	1/2 cup	0.4 grams
Pork & Beans in sauce	1/2 cup	7.0 grams			
Lentils, cooked	1/2 cup	5.0 grams			
Split peas	1/2 cup	4.4 grams			

Fiber values from ESHA Corp., "Food Processor," Nutritional analysis software,

\*Note: Some brands of whole wheat bread are fortified with fiber. Check the nutrition label for more information.

For more information on all things wheat foods, visit us at [wheatfoods.org](http://wheatfoods.org)

