

# Fiber: Are You Bulking Up on the Benefits?

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## Introduction

You may have heard you should eat more fiber, but do you know the reason? Fiber, in adequate amounts, decreases the risk for heart disease, controls blood sugar, improves digestive health, and helps with weight management. Despite these benefits, the average American only eats 40 percent of the recommended amount of fiber.

## What is Dietary Fiber?

Fiber is the part of fruit, vegetables, grains, legumes, and other plant foods that is not digested and absorbed in the small intestines. Some fiber is fermented by bacteria in the large intestines.

## Types of Fiber

Two types of fiber are soluble and insoluble. However, within each of these main categories there are many different types.

**Soluble fiber** dissolves in water to form a gel, which slows the emptying of the stomach. Slowing the emptying of the stomach helps to keep blood sugar at a

constant level, reduces cholesterol, and gives a feeling of being full. Oats and legumes are two sources of soluble fiber.

**Insoluble fiber** does not dissolve in water but holds water, making the stool bulky. This type of fiber moves quickly through the digestive system to prevent constipation and hemorrhoids.

Within the categories of soluble and insoluble fiber, different classes of fibers exist (Table 1). Examples of soluble fiber include mucilage, inulin, pectin and gums, and psyllium. Insoluble fiber includes cellulose and lignin.

**Note:** You may also see fiber classified as viscous and non-viscous or fermentable and non-fermentable. Viscous fiber forms a gel in water. Fermentable fiber is digested by the bacteria in the large intestines.

**Table 1: Sources of Soluble and Insoluble Fiber.**

<b>Soluble Fiber</b>	<b>Sources</b>	<b>Function</b>
Inulin	Onions and chicory root	<ul style="list-style-type: none"> <li>• Helps improve immune function</li> <li>• Increases helpful bacteria in the gut</li> </ul>
Mucilage, beta-glucans	Beans, peas, oats and oat bran, flaxseed, berries, bananas, oranges, apples, carrots	<ul style="list-style-type: none"> <li>• Lowers bad cholesterol (LDL)</li> <li>• Reduces risk for heart disease and type 2 diabetes</li> </ul>
Pectin and gums	Fruit, berries, and seeds	<ul style="list-style-type: none"> <li>• Helps lower blood cholesterol</li> </ul>
Psyllium	Added to fiber supplements and foods, such as cereal	<ul style="list-style-type: none"> <li>• Prevents constipation and lowers cholesterol</li> </ul>

<b>Insoluble Fiber</b>	<b>Sources</b>	<b>Function</b>
Cellulose	Whole wheat and whole grains, skins of produce, and nuts	<ul style="list-style-type: none"> <li>• Prevents constipation</li> <li>• Lowers risk of diverticulosis</li> <li>• Helps with weight management</li> </ul>
Lignin	Some vegetables, flax, and rye	<ul style="list-style-type: none"> <li>• Promotes heart health</li> <li>• May improve immune function</li> </ul>

## **Health Benefits**

### ***Heart Disease***

Studies have found that those who consume viscous fiber reduce their risk for heart disease. Viscous fiber traps LDL (bad) cholesterol and bile and removes them from the body. The liver is forced to take cholesterol from the blood (the dietary cholesterol) to make more bile. In this way, the amount of cholesterol in the blood is reduced. Soluble fiber also helps to keep blood pressure low. Fiber from oats and barley, in particular, helps lower blood pressure. By reducing the amount of cholesterol in the blood and keeping blood pressure down, the risk for heart disease is also decreased.

### ***Gut Health***

Insoluble fiber attracts water and adds bulk to the stool. This bulk helps move food through the intestines more quickly, helping with bowel movement and reducing constipation. Cereal fiber is most effective in improving gut health.

Insoluble fiber may also help prevent colon cancer. Insoluble fiber causes stool to move through the colon quickly, decreasing the time cancer-causing substances are in the intestines.

Some types of fermentable fiber (such as lactulose) may increase the number of healthy bacteria in the gut, and function as a prebiotic. This increase in healthy bacteria seems to reduce disease activity in those with inflammatory bowel disease, Crohn's disease, and ulcerative colitis.

### ***Weight Management***

Meals high in fiber require more chewing and may take longer to eat, leading one to eat less. High fiber foods stay in the stomach for a longer period of time, making one feel full longer. By causing one to eat less and to feel full longer, high-fiber meals promote weight management. High-fiber eating plans also promote weight loss by being lower in calories.

### ***Diabetes***

Soluble fiber, especially gums and pectins, seem to slow the emptying of the stomach and the absorption of glucose. This reaction normalizes the glucose response and may even decrease the amount and concentration of insulin needed.

## Daily Recommendations

Women need 25 grams of fiber each day while men need 38 grams. The amount of fiber needed depends on a person's age, gender, and amount of energy used. For those age 50 and older, the amount of fiber decreases to 21 grams for women and 30 grams for men. Children should also be eating fiber. The recommendation for children is 20 grams of fiber a day.

## Satisfying Daily Fiber Requirements

Start your day with a fiber-filled breakfast. Choose whole-grain cereals, bread, or oats, and do not forget to add in some fruit.

Eat 2 cups of fruit and 2½ cups of vegetables daily. You can add vegetables to your favorite stews or take vegetables along for a snack.

Increase the fiber in baked goods, or add fiber to whole-wheat bread or meatloaf.

Add whole grains to your meals. Substitute a whole grain for a refined grain product. For example, eat 100 percent whole-wheat bread or bagels instead of white bread or bagels. Try using brown rice instead of white rice.

More tips for adding fiber into your diet include:

- Eat more fruit instead of drinking fruit juice.
- Look for the word “whole” before grains on the ingredients list.

- Look at the amount of dietary fiber on the nutrient labels, and pick foods with the higher numbers.
- Snack on raw vegetables and fruit instead of chips, crackers, and candy.
- Add legumes, seeds, and nuts to soups and salads.
- Replace white pasta, bread, and rice for the whole-grain versions.
- Experiment with new recipes that have high fiber content.

## Resources

USDA Ten Tips Nutrition Series Make Half your Grains Whole Grains: <http://www.choosemyplate.gov/food-groups/downloads/TenTips/DGTip-sheet4MakeHalfYourGrainsWhole.pdf>.

Add More Vegetables to your Day: <http://www.choosemyplate.gov/food-groups/downloads/TenTips/DGTip-sheet2AddMoreVegetables.pdf>.

Focus on Fruits: <http://www.choosemyplate.gov/food-groups/downloads/TenTips/DGTip-sheet3FocusOnFruits.pdf>.

Liven Up your Meals with Vegetables and Fruits: <http://www.choosemyplate.gov/food-groups/downloads/TenTips/DGTip-sheet10LivenUpYourMeals.pdf>.

Buying Kentucky Proud is easy. Look for the label at your grocery store, farmers' market, or roadside stand.



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