

There are several different fiber components. The amount and effect in the body of these fibers vary with the plant source. The main insoluble fibers are lignin, cellulose and hemicellulose found wheat and vegetables. The main soluble fibers are pectins and gums found in fruits and oat bran and now known for their ability to lower blood cholesterol levels.

Foods will vary in the amount and components of fiber they contain. Immature plants may contain very little lignin. Cereals contain cellulose, hemicellulose and a fair amount of lignin, depending on the maturity of the grain. Many fruits such as apples and citrus fruits are rich in pectin. Wheat bran is high in cellulose, hemicellulose and lignin, but contains very little pectin or gums.

Table 1 describes the category of fiber, major food sources and the physiological effect in the body.

Table 2 describes the five major components of fiber and the food sources where they are located.

Table 1 CLASSIFICATION OF PLANT FIBER

Category	Component	Major Food Sources	Physiological Effects
Insoluble:			
Noncarbohydrate	Lignin	Vegetables	Uncertain
Carbohydrate	Cellulose	Wheat	Increase fecal bulk
Carbohydrate	Hemicelluloses	Cereals, vegetables	Decrease intestinal transit time, [increase fecal bulk]
Soluble:			
Carbohydrate	Pectin	Citrus fruit	Delay gastric emptying, slow glucose absorption, lower serum cholesterol
Carbohydrate	Gums	Legumes, oats, barley	

Table 2 THE FIVE COMPONENTS OF FIBER AND WHERE THEY ARE FOUND

	Cellulose	Hemicelluloses	Gums	Pectin	Lignin
Food Sources	Whole-Wheat Flour Bran Cabbage Young Peas Green Beans Wax Beans Broccoli Brussels Sprouts Cucumber Skins Peppers Apples Carrots	Bran Cereals Whole Grains Brussels Sprouts Mustard Greens Beet Root	Oatmeal & Other Rolled-Oat Products Dried Beans	Squash Apples Citrus Fruits Cauliflower Green Beans Cabbage Dried Peas Carrots Strawberries Potatoes	Breakfast Cereals Bran Older Vegetables Strawberries Eggplant Pears Green Beans Radishes
Function	Mechanically smoothes function of large bowel. Absorbs water, increasing stool and decreasing transit time. Helps prevent constipation, and may protect against diverticulosis, colon cancer, hemorrhoids and varicose veins.	Influences absorption in stomach and small bowel. Binds with bile acids, thereby decreasing fat absorption and lowering cholesterol levels. Coats gut and delays glucose absorption, smoothing sugar surges for diabetics.			Influences other kinds of fiber. Binds with bile acids to lower cholesterol. Reduces digestibility of other fibers; Helps speed food through gut.