

The Microbiome Magnified – Supplemental Information

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Definitions

Microbiota – The population of bacteria, viruses, fungi and eukaryotes living on or in the human host. The gut microbiota are the bacteria living in the human gut. They have endocrine and metabolic functions in the body. The human microbiota consists of 10 – 100 trillion symbiotic microbial cells.

Microbiome – The collective genome of the microbial population.

Probiotic – Live microorganisms that confer a health benefit on the host when administered in adequate amounts.*

Prebiotic – Selectively fermented ingredients that result in specific changes in the composition and/or activity of the gastrointestinal microbiota, thus conferring benefit(s) upon host health.*

Synbiotic – Products that contain both probiotics and prebiotics.*

*Definitions via WGO Global Guidelines

Fiber – No standardized definition of fiber. Previously included only polysaccharides, but based on physiological effects, fiber definition now includes oligosaccharides and inulin.

Dietary fiber – Nondigestible carbohydrates and lignin that are intrinsic and intact in plants.¹

Functional fiber – Isolated, nondigestible carbohydrates that have beneficial physiological effects in humans.¹

¹Definitions via *Nutrients* 2013, Fiber and Prebiotics: Mechanisms and Health Benefits

Classification of fibers based on four characteristics. *

Fibers	Classification
Dietary Fiber	Lignin
	Cellulose
	B-glucans
	Hemicelluloses Pectins
	Gums
	Resistant Starch
Soluble Fibers	B-glucans
	Gums
	Wheat dextrin
	Psyllium
	Pectin
Fermentable Fiber	Inulin
	Wheat dextrin
	Pectins
	B-glucans
	Guar gum
Viscous Fibers	Inulin
	Pectins
	B-glucans
	Some gums (e.g., guar gum)
	Psyllium
Functional Fiber	Resistant dextrins
	Psyllium
	Fructooligosaccharides
	Polydextrose
	Isolated gums
Insoluble Fibers	Isolated resistant starch
	Cellulose
	Lignin
	Some pectins
Non-fermentable Fibers	Some hemicelluloses
	Cellulose
	Lignin
Non-viscous Fibers	Polydextrose
	Inulin

*Via *Nutrients* 2013, Fiber and Prebiotics: Mechanisms and Health Benefits

High Fiber Food List

*Modified from Today's Dietitian

Palmer, S. (2008, July). *The Top Fiber-Rich Foods List*. Retrieved from <http://www.todaysdietitian.com/newarchives/063008p28.shtml>

Food	Portion	Amount of Fiber
Bran		
Oat bran, raw	1 ounce	12 g
Wheat bran, raw	1 ounce	12 g
Corn bran, raw	1 ounce	22 g
Rice bran, raw	1 ounce	6 g
Fiber One Bran Cereal	1/2 cup	14 g
All-Bran Cereal	1/2 cup	10 g
Fiber One Chewy Bars	1 bar	9 g
Grains		
Amaranth, grain	1/4 cup	6 g
Barley, pearled, cooked	1 cup	6 g
Buckwheat groats, cooked	1 cup	5 g
Popcorn, air popped	3 cups	4 g
Oats (old fashioned), dry	1/2 cup	4 g
Rye flour, dry	1/4 cup	7 g
Millet, cooked	1 cup	2 g
Quinoa, cooked	1 cup	5 g
Teff, grain, dry	1/4 cup	6 g
Triticale, flour, dry	1/4 cup	5 g
Wheat berries, dry	1/4 cup	5 g
Wild rice, cooked	1 cup	3 g
Wheat flour (whole wheat), dry	1/4 cup	4 g
Brown rice, cooked	1 cup	4 g
Bulgur, cooked	1 cup	8 g
Bread (whole wheat), sliced	1 slice	2 g
Crackers, rye wafers	1 ounce	6 g
Spaghetti (whole wheat), cooked	1 cup	6 g
Beans & Peas		
Lima beans, cooked	1 cup	14 g
Adzuki beans, cooked	1 cup	17 g
Broad beans (fava), cooked	1 cup	9 g
Black beans, cooked	1 cup	15 g
Garbanzo beans, cooked	1 cup	12 g
Lentils, cooked	1 cup	16 g
Cranberry beans, cooked	1 cup	16 g
Black turtle soup beans, cooked	1 cup	17 g
Kidney beans, cooked	1 cup	16 g
Navy beans, cooked	1 cup	19 g
White beans, small, cooked	1 cup	19 g
French beans, cooked	1 cup	17 g
Mung beans, cooked	1 cup	15 g
Yellow beans, cooked	1 cup	18 g
Pinto beans, cooked	1 cup	15 g
Cow peas (black-eyed), cooked	1 cup	11 g

Pigeon peas, cooked	1 cup	9 g
Peas, split, cooked	1 cup	16 g
Peas, green, frozen	1 cup	14 g
Peas (edible podded), cooked	1 cup	5 g
Vegetables		
Turnip greens, cooked	1 cup	5 g
Mustard greens, cooked	1 cup	5 g
Collard greens, cooked	1 cup	5 g
Spinach, cooked	1 cup	4 g
Beet greens, cooked	1 cup	4 g
Swiss chard, cooked	1 cup	4 g
Crookneck squash, cooked	1 cup	3 g
Summer scallop squash, cooked	1 cup	5 g
Hubbard squash, cooked	1 cup	7 g
Zucchini squash, cooked	1 cup	3 g
Acorn squash, cooked	1 cup	9 g
Spaghetti squash, cooked	1 cup	2 g
Kale, cooked	1 cup	3 g
Cauliflower, cooked	1 cup	5 g
Kohlrabi, raw	1 cup	5 g
Savoy cabbage, cooked	1 cup	4 g
Broccoli, cooked	1 cup	5 g
Brussels sprouts, cooked	1 cup	6 g
Red cabbage, cooked	1 cup	4 g
Russet potato, flesh and skin	1 medium	4 g
Red potato, flesh and skin	1 medium	3 g
Sweet potato, flesh and skin	1 medium	4 g
Berries and Other Fruits		
Raspberries, raw	1 cup	8 g
Blueberries, raw	1 cup	4 g
Currants (red and white), raw	1 cup	5 g
Strawberries, raw	1 cup	3 g
Boysenberries, frozen	1 cup	7 g
Gooseberries, raw	1 cup	6 g
Loganberries, frozen	1 cup	8 g
Elderberries, raw	1 cup	10 g
Blackberries, raw	1 cup	8 g
Banana	1 medium	3 g
Pear	1 medium	6 g
Orange	1 medium	4 g
Apple	1 medium	4 g
Prunes,	dried 1/2 cup	6 g
Raisins	2 ounces	2 g
Peaches, dried	1/4 cup	3 g
Figs, dried	1/2 cup	8 g
Jicama, raw	1 cup	6 g
Chayote fruit, cooked	1 cup	4 g
Starfruit (carambola), raw	1 cup	4 g
Asian pear, raw	1 fruit	4 g
Hearts of palm, cooked	1 cup	4 g
Guava, raw	1 cup	9 g

Straw mushrooms, canned	1 cup	5 g
Abiyuch, raw	1/2 cup	6 g
Lotus root	10 slices	4 g
Persimmons, raw	1 fruit	6 g
Breadfruit	1 cup	11 g
Avocado, raw	1/2 fruit	9 g
Edamame, frozen	1 cup	6 g
Taro, sliced	1 cup	4 g
Nuts and Seeds		
Almonds	1 ounce	4 g
Pistachio nuts	1 ounce	3 g
Cashews	1 ounce	1 g
Peanuts	1 ounce	2 g
Walnuts	1 ounce	2 g
Brazil nuts	1 ounce	2 g
Sunflower seeds	1/4 cup	3 g
Pumpkin seeds	1/2 cup	3 g
Sesame seeds	1/4 cup	4 g
Flaxseed	1 ounce	8 g
Fortified Foods		
Nature's Own Double Fiber Wheat Bread	1 slice	5 g
Wasa Crispbread, Fiber Rye	2 slices	4 g
Weight Watcher's Flakes 'N Fiber	1/2 cup	9 g
Silk Soy Milk Plus Fiber	1 cup	5 g
Bob's Red Mill Organic High Fiber Hot Cereal	1/3 cup, dry	10 g
Tropicana Orange Juice With Fiber	1 cup	3 g
Gnu Foods High Fiber Bar	1 bar	12 g
Fiber One Yoplait Yogurt	4 ounces	5 g