Food Sources of Folate

Folate is a water-soluble B vitamin that occurs naturally in food. Folic acid is the synthetic form of folate that is found in supplements and added to fortified foods such as cereals.

Folate helps produce and maintain new cells. This is especially important during periods of rapid cell division and growth such as infancy and pregnancy. Folate is needed to make DNA and RNA, the blueprints for cells. It also helps prevent changes to DNA that may lead to cancer. Both adults and children need folate to make normal red blood cells and prevent anemia. Folate is also essential for the metabolism of homocysteine and helps maintain normal levels of this amino acid.

Leafy green vegetables (e.g., spinach and turnip greens), citrus fruits and juices, and dried beans and peas are all natural sources of folate.

In 1996, the Food and Drug Administration (FDA) published regulations requiring the addition of folic acid to enriched breads, cereals, flours, corn meals, pastas, rice, and other grain products. Since cereals and grains are widely consumed in the U.S., these products have become a very important source of folic acid in the American diet. The following table suggests a variety of dietary sources of folate.

Food	Micrograms (mcg)
*Breakfast cereals fortified with 100% of the DV, ¾ cup	400
Beef liver, cooked, braised, 3 ounces	185
Cowpeas (black eyes), immature, cooked, boiled, ½ cup	105
*Breakfast cereals, fortified with 25% of the DV, ¾ cup	100
Spinach, frozen, cooked, boiled, ½ cup	100
Great Northern beans, boiled, ½ cup	90
Asparagus, boiled, 4 spears	85
*Rice, white, long-grain, parboiled, enriched, cooked, ½ cup	65
Vegetarian baked beans, canned, 1 cup	60
Spinach, raw, 1 cup	60
Green peas, frozen, boiled, ½ cup	50
Broccoli, chopped, frozen, cooked, ½ cup	50
*Egg noodles, cooked, enriched, ½ cup	50
Broccoli, raw, 2 spears (each 5 inches long)	45
Avocado, raw, all varieties, sliced, ½ cup sliced	45
Peanuts, all types, dry roasted, 1 ounce	40
Lettuce, Romaine, shredded, ½ cup	40

Food	Micrograms (mcg)
Wheat germ, crude, 2 Tablespoons	40
Tomato Juice, canned, 6 ounces	35
Orange juice, chilled, includes concentrate, ¾ cup	35
Turnip greens, frozen, cooked, boiled, ½ cup	30
Orange, all commercial varieties, fresh, 1 small	30
*Bread, white, 1 slice	25
*Bread, whole wheat, 1 slice	25
Egg, whole, raw, fresh, 1 large	25
Cantaloupe, raw, ¼ medium	25
Papaya, raw, ½ cup cubes	25
Banana, raw, 1 medium	20

* Items marked with an asterisk (*) are fortified with folic acid as part of the Folate Fortification Program.

Source: Office of Dietary Supplements, available at http://ods.od.nih.gov/factsheets/folate

Top 20 naturally-occurring folate-rich foods, not including organ meats or veal (reference 1). Up to 70% of the folate in food is methyl folate (references 2, 3).

Rank	Food	Folate mcg)
#1	Brewer's yeast, 1 tablespoon	313
#2	Lentils, 1/2 cup, cooked	180
#3	Edamame, frozen, 1/2 cup	179
#4	Romaine lettuce, 2 cups	152
#5	Pinto beans, 1/2 cup, cooked	147
#6	Okra, 1/2 cup, cooked fr. frozen	134
#7	Black beans, 1/2 cup, cooked	128
#8	Black-eyed peas, 1/2 cup, cooked	120
#9	Spinach, 2 cups, fresh	218
#10	Kidney beans, 1/2 cup, cooked	115
#11	Broccoli, chopped, 1 cup, cooked	104
#12	Brussels sprouts, 1 cup, cooked	94
#13	Collard greens, 1/2 cup, cooked	88
#14	Garbanzo beans, 1/2 cup, canned	80

#15	Asparagus, 1 cup, fresh	79
#16	Orange Juice, 1 cup, fresh	74
#17	Beets, 1/2 cup, cooked	68
#18	Whole wheat bread, 2 slices	60
#19	Orange, 1 large	55
#20a	Papaya cubes, 1 cup	53
#20b	Tofu, 3/4 cup	53

References

1. Magee, E. MPH, RD, http://www.silverplanet.com/health/nutrition/recipe-doctor/what-people-over-50-need-know-about-folate/top-20-folate-rich-foods/5382; accessed August 2011.

2. Muller, H. Determination of the folic acid content of vegetables and fruits using high-performance liquid chromatography. Z Lebensm Unters Forsch. 1993;196:137-41.

3. Muller, H. Determination of folic acid content of grain, cereal products, baked goods and legumes using high performance liquid chromatography. Z Lebensm Unters Forsch. 1993;197:573-7.