

VITAMIN B12: A SIMPLE SOLUTION

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A vegan diet rich in fruits, vegetables, whole grains, legumes, nuts, and seeds not only meets basic nutrition needs, but offers protection from a variety of chronic diseases and a way to achieve and maintain a healthful weight.¹ When planning a plant-based diet, it is important to include a reliable source of vitamin B12, a unique vitamin absent from plant-foods.¹ Although requirements for vitamin B12 are very low, it is necessary for maintaining good health.

Vitamin B12 is produced by bacteria and various organisms in the large intestines of humans and animals. In our own guts, the vitamin is not well absorbed and must therefore be consumed in the diet. While found nearly exclusively in animal products, small amounts of vitamin B12 may exist in plant products due to bacterial contamination or fermentation.² Most plant foods do not provide an active or reliable source of the vitamin, and a vegan diet that is not supplemented with B12 is associated with a high risk for deficiency.³

Fortunately, vitamin B12 needs can easily be met on a vegan diet by consuming a variety of fortified foods and taking a supplement. Examples of foods that are frequently fortified with vitamin B12 include breakfast cereals, plant-based milks, and meat substitutes.^{2,4} Certain brands of nutritional yeast, such as Red Star Vegetarian Support Formula, may also be a reliable source. Always check the Nutrition Facts Label or the ingredient list to ensure the product contains vitamin B12. Most common multivitamins will usually contain some form of B12.

The recommended dietary allowance (RDA) for adults is 2.4 micrograms per day, with increased requirements for women who are pregnant or breastfeeding.⁵ Deficiencies are common among elderly persons as B12 malabsorption from the diet becomes more common.⁶ Initial symptoms of vitamin B12 deficiency may include fatigue, numbness or tingling in the hands and feet, digestive disturbances, and a sore tongue.⁶ Prolonged deficiency is serious and can lead to anemia and irreversible damage to the blood and nervous system.⁶ For these reasons it is important that those who follow a plant-based diet have their vitamin B12 levels checked regularly during standard blood work or as part of an annual physical.

Listed below are common sources of vitamin B12 in the vegan diet. Be sure to check nutrition labels as products may vary.

Resources

1. Cullum-Dugan D, Pawlak R. Position of the academy of nutrition and dietetics: vegetarian diets. *J Acad Nutr Diet*. 2015;115:801-810.
2. Watanabe F, Yabuta Y, Bito T, Teng F. Vitamin B12-containing plant food sources for vegetarians. *Nutrients*. 2014;6:1861-1873.
3. Pawlak R, Parrott SJ, Raj S, Cullum-Dugan D, Lucus D. How prevalent is vitamin B12 deficiency among vegetarians? *Nut Rev*. 2013;71:110-117.
4. Tucker KL, Olson B, Bakun P, Dallal GE, Selhub J, Rosenberg IH. Breakfast cereal fortified with folic acid, vitamin B-6, and vitamin B-12 increases vitamin concentrations and reduces homocysteine concentrations: a randomized trial. *Am J Clin Nutr*. 2004;79:805-811.
5. Institute of Medicine. Dietary Reference Intakes for Thiamin, Riboflavin, Niacin, Vitamin B6, Folate, Vitamin B12, Pantothenic Acid, Biotin, and Choline. National Academy Press, Washington, DC. 2000.
6. Dali-Youcef N, Andr s E. An update on cobalamin deficiency in adults. *QJM*. 2009;102:17-28.

COMMON SOURCES OF B12 IN A VEGAN DIET

	Serving	Amount
Kellogg's Special K Cereal	1 cup	6.1 mcg
General Mills Fiber One Cereal	1/2 cup	1.5 mcg
Post Bran Flakes	3/4 cup	1.5 mcg
Silk Soymilk (All Varieties)	1 cup	2.99 mcg
So Delicious Almond Plus Almond Milk	1 cup	3 mcg
Nasoya Brand Firm TofuPlus Tofu	3 ounces	3 mcg
Red Star Vegetarian Support Formula Nutritional Yeast Mini Flakes (Formerly T-6635+)	1.5 tablespoons	7.8 mcg

U.S. Department of Agriculture, Agricultural Research Service. 2014.
USDA National Nutrient Database for Standard Reference, Release 27 and individual product websites