

Obtaining sufficient B12 from fortified foods is possible. However it does require careful consideration, including regular blood testing to check B12 levels. Infants, children and lactating women must supplement their diet with B12.



B12 DEFICIENCY IS A SERIOUS PROBLEM

The deficiency may be caused by either insufficient B12 in the diet or a problem with absorbing it during the digestive process. Meat-eating elderly people are at greatest risk of B12 deficiency.²

Relatively mild B12 deficiency has been linked to an increased risk of cardiovascular disease, depression and other health problems. Extreme B12 deficiency may cause anaemia, irreversible nervous system damage and can be life threatening (especially for the young). Therefore, it is crucial that everyone, particularly pregnant and breastfeeding mothers, ensures that they have a sufficient intake of vitamin B12.

Symptoms such as loss of energy, tingling, numbness, reduced sensitivity to pain or pressure, blurred vision, abnormal gait, sore tongue, poor memory, confusion, hallucinations and personality changes may indicate B12 deficiency. These symptoms

are usually reversible on administration of B12 commonly given by injection; although high dose sublingual tablets are now generally thought to be at least as effective as injections for correcting B12 deficiency.³

CHECKING YOUR LEVELS

If in any doubt about your B12 levels, take a daily high-dose oral supplement for a few weeks to see if symptoms improve. Also, see a doctor for tests as B12 insufficiency can involve abnormal B12 metabolic pathways and not just absorption/low intake issues.

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B12 THE MUST HAVE VITAMIN

#5 VITAMIN B12

THE ESSENTIAL VITAMIN FOR EVERYONE

A balanced plant-based diet provides us with all the essential vitamins and minerals with one exception - vitamin B12. This requires careful consideration.

Vitamin B12 is not produced by plants or animals, but by bacteria. A varied wholefood plant-based diet will reliably supply all vitamins except for B12. Therefore vegans need to consider how they can obtain it. Whilst B12 can be found in plant foods fortified with this vitamin, it is safer, easier and more reliable to take a regular supplement.

DID YOU KNOW?

- Research shows 1 in 6 meat-eaters are also B12 deficient¹
- While mushrooms, spirulina and miso contain B12, it is not in a form the body can absorb
- The meat-eating elderly are at greatest risk of B12 deficiency
- Severe B12 deficiency can cause anaemia, irreversible nerve damage and even death

RECOMMENDED B12 SUPPLEMENTS AND FORTIFIED PLANT-BASED PRODUCTS



WHAT DOES B12 DO?

Vitamin B12 (Cobalamin), is necessary for the synthesis of red blood cells, the maintenance of the nervous system, and growth and development in children. B12 is stored in the liver.

BE SAFE – SUPPLEMENT

To ensure regular B12 intake, take 25-100 mcg daily, or 1000 mcg 2-3 times per week, or 2000 mcg weekly. Supplements are available in either drops or tablets, which are best absorbed if left under the tongue. People who have not been taking B12 for a while are advised to start with 2000 micrograms. Or see your doctor for vitamin B12 injections and prescription nasal medications. There is no harm in exceeding the recommended amounts as B12 has very low toxicity. The consequences of B12 deficiency are serious. Therefore, taking a B12 supplement is the safest and sensible way to avoid problems.

THE B12 MYTHS

Plant foods containing B12 (e.g. spirulina, miso, seaweed, tempeh and mushrooms) *do not* contain B12 in a usable form. Sufficient B12 is not provided by eating unwashed food, or by not washing your hands before eating. These practices may also create other health issues.

FREE DOWNLOADS

We have many other informative leaflets on health and nutrition, including raising vegan children, available at: veganchristchurch.org.nz






HOW MUCH IS ENOUGH?

We only need tiny amounts of this essential vitamin. In fact, a whole lifetime's requirement adds up to less than half the size of the average aspirin tablet. Although our bodies can store sufficient B12 to last about five years, we are only able to absorb a very tiny amount at any one time. Therefore it is recommended that people have frequent regular intakes of B12. Whilst it is possible to obtain sufficient B12 through eating fortified foods two or three times a day, it is safer, easier and more reliable to take a regular supplement.

RECOMMENDED DAILY B12 INTAKE

(The New Zealand Ministry of Health)

AGE	(mcg)
 babies	.4*
 children	1-2
 adults	3

* from breast milk unless mother is deficient

EXAMPLES OF FORTIFIED PLANT FOODS

FOOD TYPE	BRAND & AMOUNT PER AVERAGE SERVE
Savoury spread	Marmite (.5 mcg)
Plant milks	So Good/Vitasoy (1 mcg)
Veggie 'meat'	Sanitarium Vegie Delights (2 mcg)
Nutritional yeast	Lotus/Braggs (8/2.4 mcg)
Breakfast cereal	Pro Nutro (1 mcg)
Dessert	Alpro Soya (.3mcg)

GOOD VEGAN SOURCES

Meat contains B12 because the animals have either eaten food with B12 microorganisms growing on it or they have been supplemented with it. Plant-based foods can only contain B12 if they have been fortified with the vitamin, or if they also have these microorganisms growing in them. However, these microorganisms are usually destroyed by pesticides or when food is being prepared for eating.

The only source of B12 in vegan food is fortified plant foods. Manufacturers are increasingly adding B12 to many foods and products – even toothpaste (Sante B-12 Vitamin Toothpaste). The B12 in fortified plant foods can be more easily absorbed than that found in meat and dairy. Usually, fortified food contain between .5-1 micrograms (mcg) per serve. Check the label to ascertain the B12 value in a food or product.



“Well planned vegan and other types of vegetarian diets are appropriate for all stages of the life cycle, including during pregnancy, lactation, infancy, childhood, and adolescence.”

American Dietetic Association, Dietitians of Canada: Vegetarian Diets. Statement supported by Dietitians New Zealand.

REFERENCES: 1) Tucker, K., (2000) 'Plasma vitamin B-12 concentrations relate to intake source in the Framingham Offspring Study'. *AmJ.ClinNut.* 2) Stover, P. (2010) 'Vitamin B12 and older adults' *Curr Opin Clin Nutr Metab Care.* 3) Duyvendak, M., et al (2009) 'Oral better than parenteral supplementation of vitamin B12'. *Ned Tijdschr Geneesk.*