Vitamin B-12- No mass deficiency among plant based citizens

Vitamin B12, also called cobalamin, is one of the eight B vitamins. It is a water-soluble vitamin with a key role in the normal functioning of the brain and nervous system, and for the formation of blood.

Neither plants nor animals are independently capable of constructing vitamin B12. Only bacteria have the enzymes required for its synthesis. A common synthetic form of the vitamin, cyanocobalamin, does not occur in nature, but is used in many pharmaceuticals and supplements, and as a food additive, because of its stability and lower cost. Industrial production of B12 is through fermentation of selected microorganisms.

The total world production of vitamin B12 is by four companies (the French company Sanofi-Aventis and three Chinese companies).

Vitamin B12 was discovered from its relationship to the disease pernicious anemia, which is an autoimmune disease in which parietal cells of the stomach responsible for secreting intrinsic factor are destroyed. Intrinsic factor is crucial for the normal absorption of B12, so a lack of intrinsic factor, as seen in pernicious anemia, causes a vitamin B12 deficiency.

Absorption of food vitamin B12 requires an intact and functioning stomach, exocrine pancreas, intrinsic factor, and small bowel. Problems with any one of these organs makes a vitamin B12 deficiency possible. The dietary reference intake for an adult ranges from 2 to 3 µg per day. Alcohol, antibiotics, some antiacids, nicotine and potassium supplements can prevent vitamin B12 absorbtion.

It's important to note that investigations into the intestinal absorption of B12 point out that the upper limit per single dose, under normal conditions, is about 1.5mcg. The total amount of vitamin B12 stored in body is about 2–5 mg in adults. Around 50% of this is stored in the liver. Approximately 0.1% of this is lost per day by secretions into the gut, as not all these secretions are reabsorbed.

Due to the extremely efficient enterohepatic circulation of B12, the liver can store several years' worth of vitamin B12; therefore, nutritional deficiency of this vitamin is rare.

Examples of fortified foods include fortified breakfast cereals, fortified soy products, fortified energy bars, and fortified nutritional yeast. Vitamin B12 is also available in vitamin pill form.

This was pretty surprising to me as the popular media continues to stress the need for vegetarian/herbivores to get enough B-12 as if it is a dire problem. Seems pretty easy to accomplish.