# FAQ

## Becoming Vegan

Isn’t becoming vegan hard to do?
That all depends on your motivation and your attachment to certain foods. For some individuals, it is a monumental task to eat a meatless meal once a week, while for others, being plant-based seems second-nature. When an individual is a very food-centric, and their social interactions revolve around food, becoming vegan can seem like a practical impossibility. For those who are less invested in food, it can be as simple as swapping hamburgers for veggie burgers and cow’s milk for almond milk.  You may fall somewhere in-between these extremes, but regardless, you can be assured that becoming vegan is not only doable, it can be a wonderful culinary adventure. Just remember, it is not a race. While some people make the transition overnight, most are more successful when they transition gradually.

**Step one is to get informed about everything vegan** – including nutrition and food preparation.  Get a few good books.  Becoming Vegan: Express Edition was intended to help make the whole process easier. Invest in some good vegan cookbooks – Cooking Vegan is an excellent place to start.

**Step two is to put social support systems in place.**  Join a veg-group in your area. Go to potlucks. Take a vegan cooking class. Go to a VegFest.  Join discussion groups online. Sign up for nutritionfacts.org. Find out about vegan-friendly restaurants and shops, and frequent them.  Make some vegan friends.

**Step three is to make the transition**. You might start by veganizing breakfast. Instead of cereal, blueberries and cow’s milk, opt for cereal, blueberries and soy milk, almond milk or

coconut milk. You might even want to give your breakfast a nutrition boost and sprinkle chia seeds, flaxseeds, hempseeds and/or walnuts on top.  After breakfast is figured on, move on to lunch.  Instead of a chicken sandwich, a salad and an apple, they have a baked tofu sandwich or a hummus/vegetable wrap, a salad and an apple.  Next, work on dinner. Look at your favorite recipes, and Google, vegan versions of these dishes.  You will be amazed by what you come up with. There are vegan versions of just about every food you can imagine – vegan chocolate, vegan ice cream, vegan cheese, vegan "chicken", and so on. Finally, think about veganizing snacks. This one is easy. Kale chips, vegan energy bars, fresh fruit, raw brownies, green smoothies, and the list goes on.

If you want to sustain a vegan diet for the long haul, you need to be comfortable with your choices.  Be kind and compassionate with yourself. Celebrate the small strides you make and keep moving forward at a pace that you can manage.  Don't lose any sleep over the trace amounts of animal products that permeate the food supply.  Focus first on the bigger items like meat, eggs and dairy products.  Remember that becoming vegan is a process, and it is not about being perfect.  It is about being a more conscious, compassionate consumer.

Why vegan and not just plant-based?
The evidence that plant-based diets are most protective against chronic disease is very strong, if not overwhelming. Blue Zone populations all consume plant-based diets. However, there is no question that humans can survive and even thrive on a variety of eating patterns, the vast majority of which include some animal products. So why do recommend a vegan diet when clearly a plant-based diet that includes small amounts of animal products has been shown to support excellent health?

I am swayed by the big picture. There are over 7.5 billion people on this planet, and our numbers are rapidly rising. What we eat matters – it matters to us, it matters to our

neighbors, it matters to other animals, and it matters to the ecological viability of this planet. Eating lower on the food chain is, in my view, an ecological imperative. Animal agriculture has a greater negative impact on the planet's life support systems than any other human activity (United Nations Environmental Program). In 2008, a study by Webber and Matthews essentially showed that we reduce greenhouse gas emissions more by eating vegan one day a week than by eating local 24/7.

Many people seem oblivious to what our appetite for animal products means for the animals. Humans slaughter about 70 billion land animals a year for food alone. The vast majority of these animals are raised in concentrated animal feeding operations (CAFO). I can think of nothing that justifies forcing animals to live their entire lives in confinement, and to endure pain, suffering and death, when it is completely unnecessary, and when we have a choice (although not everyone does).

Although from a purely nutritional perspective, we don't have to be vegan to avoid disease and live healthfully, recent studies have shown clear advantages for vegans and vegetarians compared to similar, health-conscious omnivores where disease risk reduction is concerned.

- Vegetarians and vegans are almost 1/3 less likely to develop heart disease (EPIC Oxford); 40-55% lower risk for vegan men (AHS-2)
- Vegans are about 16-19% less likely to be diagnosed with cancer (EPIC and AHS-2)
- Vegans are more than 60% less likely to develop diabetes (AHS-2)

- Vegans are 40% less likely to develop cataracts (EPIC Oxford)
- Vegetarians and vegans are over 50% less likely to develop kidney disease (AHS-2)
- Vegans are 75% less likely to develop hypertension (AHS-2)

## Vegan Nutrition

Are there nutrients that might be missing in some vegan diets? Any diet that is poorly planned will be missing nutrients, vegan or otherwise. In vegan diets, the nutrient of greatest concern is vitamin B12. The more restrictive the diet, the more of an issue this becomes. Plant foods are not reliable B12 sources, not even fermented foods, sprouts, mushrooms, seaweeds, spirulina, sprouts, or raw plant foods. We obtain little or no true vitamin B12 from these, and we may obtain inactive analog forms of B12 that are worse than useless because they fail to meet human requirements and can interfere with the action of true B12. The only reliable sources for vegans are supplements and fortified foods. Vegans eating unprocessed, whole food or raw diets need to take a B12 supplement. Although B12 is efficiently recycled, eventually it runs out, and this can happen in 6 months for some individuals and 6 years for others. Although people make B12 in their intestines, most is produced in the large intestine, but absorbed in the small intestine, so insufficient amounts make their way to the bloodstream. If people are using 3 or more servings of fortified foods such as soymilk, meat analogs, B12 rich nutritional yeast and fortified cereals, they are likely getting enough, but it is still a good idea to take a weekly 1000 mcg supplement – just to be on the safe side. If fortified food use is limited, take 1000-2500 mcg 2-3 times a week – seniors are often advised to take 500-1000 mcg daily. I would suggest using cyanocobalmin or both methylcobalamin and adenosylcobalamin. If using methylcobalamin and adenosylcobalamin, it is best to take it

daily. Those who are B12-deficient need to take at least 1000 mcg/day – better still would be 1000 mcg twice a day or 500 mcg 4 x day. The IOM recommends that everyone over 50 NOT rely on animal products as B12 sources. This is because our ability to cleave B12 off the protein it is bound to in animal products diminished as we age. So everyone over 50 – vegan, vegetarian or omnivore should rely only on fortified foods and supplements for vitamin B12.

Certainly, other micronutrients such as iron, zinc, calcium, vitamin D and iodine can also be issues in poorly designed plant-based diets. The nutrition challenges commonly faced by vegans are relatively easy to overcome – my new books, Becoming Vegan: Express Edition and Becoming Vegan: Comprehensive Edition were written specifically to help individuals avoid any potential pitfalls.

Can we get enough protein without meat?
Absolutely. All of the amino acids we must get from food are made by plants, so it makes sense that we can get them from these foods. Most vegans meet the recommended intakes for protein. For those who get sufficient calories (not a worry for most of us), and consume a reasonable mix of plant foods, including some of the more protein-rich choices such as legumes, soy foods, whole grains, seeds and nuts, protein is not a worry. However, protein is a legitimate concern for some groups of individuals:

- Those with poorly designed or overly restrictive diets – people who eat insufficient calories, people who eat a lot of sugar and fat (e.g. fries and soda) and fruitarians. for Absolutely, protein is a legitimate concern, because it is an essential nutrient, and poorly designed plant-based diets can be low in protein.
- Those with increased protein needs (we look at this as the amount of protein needed per pound of body weight) – children (at greatest risk are especially picky eaters), pregnant and lactating women, athletes (those with lower

calorie intakes are at increased risk), and seniors (especially those with low energy intakes).

The percent of calories from protein we need varies with our energy intakes, so it is best to consider the amount of protein people need per pound or per kg body weight. For example, an 150-lb athlete may eat 4000 kcal, so even at 10% of calories from protein, he or she is still eating 100 grams of protein. If that person needs .55 grams of protein per pound (1.2 grams per kg) body weight (which is typical for athletes), their needs would be about 83 grams, and they are getting more than enough. On the other hand, a 150-lb senior who eats only 1600 calories and 10% of calories from protein gets only 40 grams. They will need at least .45 grams protein per pound (1 gram per kg) body weight – some experts will say as high as .55 grams per pound (1.2 grams per kg), which amounts to about 68 grams. Seniors have a reduced ability to absorb and use protein, thus their needs are increased. Some may need to get 15-20% of calories from protein. Higher protein intakes help seniors avoid loss of lean muscle mass (this is called sarcopenia), and may help boost immune function, improve wound healing, control blood pressure and maintain bone strength.

Can you suggest practical ways of boosting protein intake?
The best plant-protein source is legumes. Most of us did not grow up eating beans, lentils and tofu, so it is common for Western vegans to drop meat from the diet and not to replace it with protein-rich plant alternatives. Some people end up living on pasta and bagels, or worse yet, fries and soda. While protein can be an issue for some individuals, it is relatively easy to ensure sufficient intake. Simply including

legumes in the daily diet, and other protein-rich foods such as seeds, nuts, whole grains and non-starchy vegetables, will do the trick, especially if fat and sugar intakes are kept very moderate.

To boost protein, think about a source of protein for each meal. For breakfast, if you are using almond milk or other non-dairy beverages with low protein content (1-2 grams per cup), boost the protein content by blending every quart with about a 1/2 cup (125 ml) of hempseeds. This makes the milk much creamier, but also much higher in protein and trace minerals. Add hempseeds, sunflower seeds, soft tofu to your smoothies. Try scrambled tofu or even beans and greens for breakfast. At lunch and dinner, always include a protein rich legume choice – lentil soup, black beans on your salad, tofu or tempeh in your stir-fry, etc. Snack on protein-rich foods such as pumpkin seeds.

Do we need a direct source of vitamin K2?
A few health advocates have suggested that the body doesn't adequately convert vitamin K1 to K2 and that people require dietary sources of vitamin K2. While vitamin K1 serves blood-clotting processes and activities such as bone building, vitamin K2 is needed for protection against heart disease, arthritis, and cancer.

Although vitamin K2 has a wider range of biological activity, individuals with a healthy, normal supply of gut bacteria are well-equipped to convert K1 to K2. Scientific evidence supporting a requirement for a direct source of vitamin K2 is lacking, and the IOM doesn't suggest that any direct intake of vitamin K2 is necessary. However, people who've had significant antibiotic therapy and are concerned about a temporary loss of ability to convert K1 to K2 can obtain a vegan source of vitamin K2 by taking a supplement or consuming natto. Natto (fermented soybeans) contains 23 mcg of vitamin K1 plus 941 to 998 mcg vitamin K2 per 100 g (a little more than ½ cup).

Do we need cow’s milk to get enough calcium?
In a word, no. There is no question that we need calcium and that it is important for bone health, and consuming the milk of other mammals will boost calcium intakes substantially. Cow’s milk provides about 300 mg calcium per cup. Moose and deer milk provide about twice as much calcium per cup as cow’s milk. That doesn’t make them essential foods for humans. To me, the important question is what is the optimal way for humans to acquire the calcium they need. While cow’s milk products are certainly one way, their production comes at such a cost to animals, to their offspring, and to the environment that it seems to me, quite unjustifiable. It makes more sense for people to rely on calcium-rich plant foods such as low-oxalate greens, tofu, legumes, figs and almonds for calcium. It also makes sense to further boost intakes to meet the RDA by including some fortified non-dairy alternatives such as soy milk or almond milk. It is important not to ignore calcium. An important study found vegans who consume less than 525 mg calcium per day had a 30% increase in fracture risk compared to nonvegetarians. However, those consuming more than 525 mg had about the same fracture risk as other dietary groups.

**So, what foods would you need to eat to get 1000 mg calcium (the RDA for adults 19-50 years)?**

1 cup (250 ml) fortified almond milk – 300 mg

4 oz tofu (120 g) – 200 mg

4 servings fruit – 120 mg

5 servings vegetables including 2 low-oxalate, high calcium greens – 300 mg

2 servings beans – 150 mg

2 oz (60 g) nuts and seeds – 50 mg

I am a male athlete and am losing weight on a vegan diet. How can I maintain my weight and my muscle mass?
Vegan foods are less energy-dense and more bulky, so you simply need to eat more. You can do this by increasing portion sizes, and eating more often. It is important that you do not skip meals and that you allow for a few snacks throughout the day. If you are not used to eating breakfast, consider having a full meal smoothie to start your day. (This means a smoothie with a protein and fat source such as hempseeds, soy milk, etc.) Choose plenty of higher calorie vegan options, such as nut and seed butters, tofu and avocados. Bring convenient snacks with you to eat throughout the day, especially pre- and post-workout. Trail mix, power bars, sandwiches and tofu jerky are good options. Drink caloric beverages such as fruit juice and shakes.

There are several websites dedicated to vegan athletes, with extraordinary examples of buff vegans. Consider hiring a dietitian to do a nutritional analysis so you know your actual nutrient and protein intakes.

Check out these excellent websites for more information

http://www.greatveganathletes.com/

http://www.nomeatathlete.com/

http://www.organicathlete.org/

http://www.veganathlete.com/

http://www.veganbodybuilding.com/

Is a vegan diet healthy?
The American Dietetic Association's 2009 position paper on

vegetarian diets states:

> *It is the position of the American Dietetic Association that appropriately planned vegetarian diets, including total vegetarian or vegan diets, are healthful, nutritionally adequate, and may provide health benefits in the prevention and treatment of certain diseases. Well-planned vegetarian diets are appropriate for individuals during all stages of the life cycle, including pregnancy, lactation, infancy, childhood, and adolescence, and for athletes.… An evidence-based review showed that vegetarian diets can be nutritionally adequate in pregnancy and result in positive maternal and infant health outcomes. The results of an evidence-based review showed that a vegetarian diet is associated with a lower risk of death from ischemic heart disease. Vegetarians also appear to have lower low-density lipoprotein cholesterol levels, lower blood pressure, and lower rates of hypertension and type 2 diabetes than nonvegetarians. Furthermore, vegetarians tend to have a lower body mass index and lower overall cancer rates.*

Cows' milk contains ideal amounts of fat and protein for young calves, but far too much for humans. And eggs are higher in cholesterol than any other food, making them a leading contributor to cardiovascular disease.

Vegan foods, such as whole grains, vegetables, fruits, and beans, are low in fat, contain no cholesterol, and are rich in fiber and nutrients. Vegans can get all the protein they need from legumes (e.g., beans, tofu, peanuts) and grains (e.g., rice, corn, whole wheat breads and pastas); calcium from broccoli, kale, collard greens, tofu, fortified juices and soymilks; iron from chickpeas, spinach, pinto beans, and soy products; and B12 from fortified foods or supplements. With planning, a vegan diet can provide all the nutrients we were taught as schoolchildren came only from animal products.

Please see VeganHealth.org for more information.

Is it safe to bring up a child on a vegan diet?
Yes. According to the position of the Academy of Nutrition and Dietetics (formerly ADA), well-planned vegetarian diets (including vegan diets) are appropriate for individuals during all stages of the life cycle, including pregnancy, lactation, infancy, childhood, and adolescence, and for athletes. Of course, it is important that the diet is well-planned and that is why we can taken great care to provide appropriate guidelines for people at all stages of the lifecycle in *Becoming Vegan: Express Edition* and *Becoming Vegan: Comprehensive Edition*.

Is soy safe?
Soy has a long history of use in Asia, and within vegetarian populations throughout the world. Two of the healthiest, long-lived populations in the world – the Okinawan Japanese and the Seventh-day Adventists in Loma Linda California – are frequent soy consumers. The traditional Okinawan diet derives about 5-6% of calories from soy or about 2 servings a day. If soy foods were dangerous, its effects would be reflected in the health and longevity of these populations. Soy has been extensively researched – about 2,000 new studies on soy are released yearly. The value of soybeans for human health depends on the form and quantity eaten.

There is considerable negative press about soy on the internet. It can usually be traced back to groups that promote animal-based diets. These groups are strongly invested in encouraging the consumption of meat, eggs and dairy, and they do an exceptional job of convincing consumers to steer clear of soy. When plant-based enthusiasts jump on the anti-soy bandwagon, they remove a whole category of food that has the potential to make their diets more nutritious, more healthful and more enjoyable. While it is not necessary to eat soy, it is not necessary to avoid it either. Some individuals need to avoid or limit soy due to allergy or severe thyroid problems,

however, for most people, soy foods safe and nutritious.

Traditional soy foods are generally the most healthful choices. They fall into two categories: fermented (e.g. tempeh, miso and natto) and unfermented (e. g. tofu, soymilk, edamame soybeans and soy nuts). Both are healthful. The soaking and cooking that occur when soybeans are prepared for use in unfermented products such as soy milk and tofu reduces antinutrients and improves digestibility and mineral availability. The same can be said for fermented soy products such as tempeh. The fermentation process also helps to support beneficial gut bacteria and, in some cases, can add vitamin B12 (e.g. in tempeh fermented in some Asian countries such as Indonesia) and/or vitamin K2 (e.g. in natto). More heavily processed soy products such veggie meats and protein powders are rich sources of high quality protein, however, the burgers and other meatless products are higher in sodium and added fats. Read labels, and use these products less often than traditional soy foods. Some soy products such as soy cheeses contain partially-hydrogenated oils (trans fats) and should be completely avoided. Read labels.

The nutritional benefits of soy are similar to other legumes, although soybeans are higher in protein and fat, and lower in carbohydrates. Soybeans derive about 25-38 percent of their protein from protein, compared with about 20 to 30 percent for other legumes. The quality of protein in soy is similar to that of animal products, and is better than that of other legumes. Soyfoods provide an excellent and often easy way for children and adults to reach recommended intakes of the amino acids lysine and tryptophan. While most legumes are low in fat (about 2-15% of calories), soybeans derive about 40 percent of calories from fat. The fat in soybeans is mainly polyunsaturated, including 7 percent alpha-linolenic acid (an omega-3 fatty acid). Whole soybeans are a rich source of fiber, although processing diminishes fiber content. Soybeans are also high in B-vitamins, especially niacin, pyridoxine and

folic acid. They are also good sources of minerals such as calcium, iron, magnesium and copper. Calcium is often added to soymilk, and tofu is commonly set with calcium, so these products are particularly rich calcium sources. For many years experts thought that iron was poorly absorbed from soy, however, more recent evidence suggests absorption is quite high. When consumed with vitamin-C-rich fruits and vegetables, absorption is further enhanced. Nutrient absorption is also improved when soy is soaked, cooked or fermented. Soy products can contribute very significantly to nutritional needs of people during every stage of the lifecycle.

Evidence suggests that regular soy consumption may provide a variety of health benefits, including lower risk of coronary heart disease, reduction in hot flashes, protection against some forms of cancer, and possible protection against osteoporosis. In addition, compared with animal protein, soy protein may protect kidney function.

I would suggest that a safe and reasonable soy intake is 1-2 servings per day for children and 2-4 servings per day for adults.

Should nuts and seeds be avoided due to their fat content?
I am convinced that high-fat plant foods not only deserve a place in our diets, but they deserve a place of honor. A number of highly respected vegan health advocates have taken a hard-line view against fat, including fat found in whole plant foods such as nuts, seeds, coconut and avocados. As a result, many vegans restrict or completely avoid these foods. The question that arises is whether or not their avoidance is necessary or even helpful for the average vegan. While there is impressive evidence for the use of very low-fat plant-based diets for people with severe coronary artery disease, there is little evidence to suggest that such diets should serve as the gold standard for vegans.

Nuts and seeds are valuable sources of healthful fats,

including essential fatty acids. They are loaded with trace minerals such as calcium, copper, iron, magnesium, manganese, potassium, selenium and zinc, and are important sources of vitamins, especially vitamin E and folate. They are good sources of plant protein, with a particularly rich content of L-arginine. This amino acid is a precursor of nitric oxide, which is a helps to preserve the elasticity and flexibility of blood vessels, enhancing blood flow. Nuts and seeds are rich in phytochemicals and antioxidants. These protective compounds favorably alter inflammation, oxidized LDL and endothelial function. Due to their low carbohydrate content, nuts and seeds have the lowest glycemic index and glycemic load of any whole plant foods.

Not surprisingly, the research on nuts and seeds and human health overwhelmingly favorable. In fact, their consumption is associated with a reduction in heart disease, stroke, hypertension, type 2 diabetes, metabolic syndrome, overweight, macular degeneration, dementia and gallstones. Their consumption has also been positively associated with longevity. Maximum benefits are associated with moderate intakes of about an ounce or two a day.

A good target intake is about an ounce of nuts and an ounce of seeds per day – slightly more for those with high energy needs and slightly less for those with low energy needs. Eat a variety of nuts and seeds, as each variety offers something unique. Keep some omega-3 rich options such as chia, flax, hempseeds and walnuts in the mix. I recommend buying raw nuts and seeds and soaking and dehydrating them. This reduces antinutrients, boosts nutrients and makes them more digestible. I always store them in the freezer – once they are out of their shell they are more susceptible to oxidative damage.

What do you believe are the biggest obstacles people face when switching to a vegan diet?
I think the biggest barriers are fear of giving up favorite

foods and having to eat less tasty replacements, and being socially and culturally isolated as a result of dietary choices. One way to overcome the “taste” barriers is to transition slowly, learning to replace favorite foods with even tastier options. For example, banana-mango-pineapple “ice cream” makes an even tastier dessert than regular dairy ice cream. Look for plant-based versions of family favorites – tacos, spaghetti, pizza, shepherd’s pie, tamale pie, burgers, stews, curries, etc. In social situations, bring enough food for everyone to enjoy. When you share delicious, fun food, it opens social doors instead of closing them. When you make something that is really special, share it with colleagues and friends. Get together with like-minded individuals – check out the support that is available in your community and beyond.