



Nutritious Delicious Cooking Resources  
[www. SustainableLivingProject .net](http://www.SustainableLivingProject.net)

## **Nutritious Delicious!**

### **Vegetarian and Vegan**

### ***Healthy Ways to Eat a Plant-Based Diet***



#### History

Vegetarianism has been practiced somewhat widely in Western cultures since the 1960's; however, its origins date back much farther. Some well-known vegetarians include Susan B. Anthony, Greek mathematician Pythagoras, and the eponymous cracker inventor and vegetarian advocate Sylvester Graham. In Eastern cultures, vegetarianism dates back to the origins of Buddhism and Hinduism.

#### Nutrition

**Semi-Vegetarian** – Limits the amount of animal products consumed, typically more for health reasons, but does not fully eliminate them from their diet.

**Pescatarian** – Consumes seafood and shellfish but limits poultry, pork, and beef products.

**Pollo-Vegetarians** – Limits animal foods with the exception of chicken, turkey, and/or duck.

**Lacto-Ovo Vegetarian** – Limits animal foods, with the exception of eggs and dairy products.

**Lacto Vegetarian** – Limits all animal foods except dairy products.

**Vegan** – Vegans will limit all animal products from their diets, and their lives, such as leather, wool, silk, and beeswax.

**Exceptions** - Some animal products may be considered tolerable by some of the above categories of vegetarianism, e.g., honey and bee products, vitamins or other products containing gelatins, whey, casein, lard, or rennet. Additionally, this may be true for some or all of these non-food products: wool, lanolin, toiletries, glue, collagen, leather, bone china, carmine, isinglass, tallow, shellac, camera film, certain vaccines, fur, and silk. Use or elimination of these products depends on the reason the person is pursuing vegetarianism.

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## **The “Why’s” of Vegetarianism**

**Health Reasons:** Research supporting plant-based diets would indicate a significant risk reduction for cancers, heart disease, auto-immune disorders, hypertension, strokes, and digestive disorders.

**Ending Cruelty to Animals:** For many people, vegetarianism defines their ethics surrounding the treatment of animals -- especially on factory farms.

**Environmental Reasons:** Eating more “raw,” vegetarian foods decreases the amount of energy used during the preparation process. Also, by not consuming animal products, you are helping to lessen the amount of energy used on farms to produce animal products.

**Cost:** Plant-based foods are often fresher and cheaper (especially when in season) than meat, seafood, and other animal products.

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## Benefits of Vegetarianism

Lower risk of cancers

- Vegetarian diets have been linked with lower rates of obesity
- Lower cholesterol levels and hypertension for increased heart health
- Lower rates of diabetes

## Health Concerns for Vegetarianism

**Protein/ Amino Acid Intake:** While limiting meats, dairy, and eggs, a vegetarian needs to ensure they educate themselves about how to assure intake of protein. Protein and amino acids are needed for cellular and muscle functions, as well as enzyme, hormone and nutrient transport and utilization. But it's not all that complicated. To ensure adequate protein consumption, first learn about protein amounts in common vegetarian sources (see table below), as well as how to consume needed caloric requirements efficiently as described below.

Amino acids are the building blocks of protein molecules. To obtain all the essential amino acids needed from your diet you will need to create "complete" proteins in your diet such as the combination of whole grains and beans. The USDA Recommended Daily Allowance (RDA) Dietary Reference Intakes encourages a minimum of .8 g of protein per kg of bodyweight per day to ensure a state of healthy well-being, though personal needs may vary. This equates to about 10-12 percent of your daily intake coming from protein sources. If you are unable to get appropriate amounts through your diet, there are supplements available for sale. Knowing how many calories you need for your height, weight, and activity level will help determine how many grams of protein you should consume daily. One gram of protein yields for calories of energy. For example is someone needs 2000 calories per day and 10 percent of those calories should come from protein then they will need 200 calories from protein sources. To determine the number of grams, you would divide 200 by 4 (number of calories per gram) to get a quotient of 50 grams of protein per day.

Protein deficiency can result in thinning and brittle hair, nausea, stomach pain, fainting, skin ulcers, muscle weakness and cramping, lightening of the skin, increased risk of sun burning, skin rashes, dry skin and flakiness, slow healing

process of wounds, headaches, and chronic tiredness. If concerned about protein deficiency, it would be beneficial to contact your healthcare provider for testing.

Protein Content of Selected Vegan Foods			
FOOD	AMOUNT	PROTEIN(gm)	PROTEIN(gm/100 cal)
Tempeh	1 cup	41	9.3
Seitan	3 ounces	31	22.1
Soybeans, cooked	1 cup	29	9.6
Lentils, cooked	1 cup	18	7.8
Black beans, cooked	1 cup	15	6.7
Kidney beans, cooked	1 cup	13	6.4
Veggie burger	1 patty	13	13.0
Chickpeas, cooked	1 cup	12	4.2
Veggie baked beans	1 cup	12	5.0
Pinto beans, cooked	1 cup	12	5.7
Black-eyed peas, cooked	1 cup	11	6.2
Tofu, firm	4 ounces	11	11.7
Lima beans, cooked	1 cup	10	5.7
Quinoa, cooked	1 cup	9	3.5
Tofu, regular	4 ounces	9	10.6
Bagel	1 med.(3 oz)	9	3.9
Peas, cooked	1 cup	9	6.4
Textured Vegetable Protein (TVP),cooked	1/2 cup	8	8.4
Peanut butter	2 Tbsp	8	4.3
Veggie dog	1 link	8	13.3
Spaghetti, cooked	1 cup	8	3.7
Almonds	1/4 cup	8	3.7
Soy milk, plain	1 cup	7	7.0
Soy yogurt, plain	6 ounces	6	4.0
Bulgur, cooked	1 cup	6	3.7
Sunflower seeds	1/4 cup	6	3.3
Whole wheat bread	2 slices	5	3.9
Cashews	1/4 cup	5	2.7
Almond butter	2 Tbsp	5	2.4
Brown rice, cooked	1 cup	5	2.1
Spinach, cooked	1 cup	5	13.0
Broccoli, cooked	1 cup	4	6.8
Potato	1 med. (6 oz.)	4	2.7

Sources: USDA Nutrient Database for Standard Reference, Release 18, 2005 and manufacturers' information.

The recommendation for protein for adult males vegans is around 56-70 grams per day; for adult female vegans it is around 46-58 grams per day.

Source: <http://www.not-just-recipes.com/vegetarian-nutrition.html>

## To Determine Your Daily Caloric Needs

Determining your caloric need can help you determine safe intakes of carbohydrates, proteins, fats, vitamins, and minerals that support optimal health.

<http://www.cordianet.com/calculator.htm>

### Servings Per Day (Various Foods) for Optimal Nutrient Intake

For each food group or subgroup,<sup>a</sup> recommended average daily intake amounts<sup>b</sup> at all calorie levels. Recommended intakes from vegetable and protein foods subgroups are per week. For more information and tools for application, go to MyPyramid.gov.

Calorie level of pattern <sup>c</sup>	1,000	1,200	1,400	1,600	1,800	2,000	2,200	2,400	2,600	2,800	3,000	3,200
<b>Fruits</b>	1 c	1 c	1½ c	1½ c	1½ c	2 c	2 c	2 c	2 c	2½ c	2½ c	2½ c
<b>Vegetables<sup>d</sup></b>	1 c	1½ c	1½ c	2 c	2½ c	2½ c	3 c	3 c	3½ c	3½ c	4 c	4 c
Dark-green vegetables	½ c/wk	1 c/wk	1 c/wk	1½ c/wk	1½ c/wk	1½ c/wk	2 c/wk	2 c/wk	2½ c/wk	2½ c/wk	2½ c/wk	2½ c/wk
Red and orange vegetables	2½ c/wk	3 c/wk	3 c/wk	4 c/wk	5½ c/wk	5½ c/wk	6 c/wk	6 c/wk	7 c/wk	7 c/wk	7½ c/wk	7½ c/wk
Beans and peas (legumes)	½ c/wk	½ c/wk	½ c/wk	1 c/wk	1½ c/wk	1½ c/wk	2 c/wk	2 c/wk	2½ c/wk	2½ c/wk	3 c/wk	3 c/wk
Starchy vegetables	2 c/wk	3½ c/wk	3½ c/wk	4 c/wk	5 c/wk	5 c/wk	6 c/wk	6 c/wk	7 c/wk	7 c/wk	8 c/wk	8 c/wk
Other vegetables	1½ c/wk	2½ c/wk	2½ c/wk	3½ c/wk	4 c/wk	4 c/wk	5 c/wk	5 c/wk	5½ c/wk	5½ c/wk	7 c/wk	7 c/wk
<b>Grains<sup>e</sup></b>	3 oz•eq	4 oz•eq	5 oz•eq	5 oz•eq	6 oz•eq	6 oz•eq	7 oz•eq	8 oz•eq	9 oz•eq	10 oz•eq	10 oz•eq	10 oz•eq
Whole grains	1½ oz•eq	2 oz•eq	2½ oz•eq	3 oz•eq	3 oz•eq	3 oz•eq	3½ oz•eq	4 oz•eq	4½ oz•eq	5 oz•eq	5 oz•eq	5 oz•eq
Refined grains	1½ oz•eq	2 oz•eq	2½ oz•eq	2 oz•eq	3 oz•eq	3 oz•eq	3½ oz•eq	4 oz•eq	4½ oz•eq	5 oz•eq	5 oz•eq	5 oz•eq
<b>Protein foods<sup>f</sup></b>	2 oz•eq	3 oz•eq	4 oz•eq	5 oz•eq	5 oz•eq	5½ oz•eq	6 oz•eq	6½ oz•eq	6½ oz•eq	7 oz•eq	7 oz•eq	7 oz•eq
Eggs	1 oz•eq/wk	2 oz•eq/wk	3 oz•eq/wk	4 oz•eq/wk	4 oz•eq/wk	4 oz•eq/wk	4 oz•eq/wk	5 oz•eq/wk				
Beans and peas <sup>g</sup>	3½ oz•eq/wk	5 oz•eq/wk	7 oz•eq/wk	9 oz•eq/wk	9 oz•eq/wk	10 oz•eq/wk	10 oz•eq/wk	11 oz•eq/wk	11 oz•eq/wk	12 oz•eq/wk	12 oz•eq/wk	12 oz•eq/wk
Soy products	4 oz•eq/wk	6 oz•eq/wk	8 oz•eq/wk	11 oz•eq/wk	11 oz•eq/wk	12 oz•eq/wk	13 oz•eq/wk	14 oz•eq/wk	14 oz•eq/wk	15 oz•eq/wk	15 oz•eq/wk	15 oz•eq/wk
Nuts and seeds	5 oz•eq/wk	7 oz•eq/wk	10 oz•eq/wk	12 oz•eq/wk	12 oz•eq/wk	13 oz•eq/wk	15 oz•eq/wk	16 oz•eq/wk	16 oz•eq/wk	17 oz•eq/wk	17 oz•eq/wk	17 oz•eq/wk
<b>Dairy<sup>h</sup></b>	2 c	2½ c	2½ c	3 c	3 c	3 c	3 c	3 c	3 c	3 c	3 c	3 c
<b>Oils<sup>h</sup></b>	12 g	13 g	12 g	15 g	17 g	19 g	21 g	22 g	25 g	26 g	34 g	41 g
<b>Maximum SoFAS<sup>i</sup> limit, calories (% total calories)</b>	137 (14%)	121 (10%)	121 (9%)	121 (8%)	161 (9%)	258 (13%)	266 (12%)	330 (14%)	362 (14%)	395 (14%)	459 (15%)	596 (19%)

a, b, c, d, e. See Appendix table 7, notes a through e.  
 f. Total recommended beans and peas amounts would be the sum of amounts recommended in the vegetable and the protein foods groups. An ounce-equivalent of beans and peas in the protein foods group is ¼ cup, cooked. For example, in the 2,000 calorie pattern, total weekly beans and peas recommendation is (10 oz•eq/4) + 1½ cups = about 4 cups, cooked g, h, i. See Appendix 7, notes f, g, and h.

Source: "vegonline.org"

## Calcium Needs/ Decreased Risk of Osteoporosis

It may be challenging to meet your daily calcium requirements, and it's symbiotic partner vitamin D, if your diet is not strongly plant-based (i.e, if you are eating a lot of processed food.) It is essential to consume a diet high in dark, leafy greens, to ensure proper calcium intake. If needed, a supplemental form of calcium can be used. The average amount of calcium needed is 1300 mg per day for adolescents and 1000 for adults. Chelated calcium is the easiest supplemental for your body to utilize and absorb when whole food requirements cannot be met. Other minerals such as magnesium and zinc also factor into calcium utilization and should be included in the supplement. Osteoporosis will result in frail and brittle bones, increased risk of injury, bone fractures, poor posture, and calcium depletion. If you feel you may be deficient in dietary calcium it is recommended to request a bone density scan as a preventative measure. Rich sources of calcium are dark leafy greens and beans (especially lentils.)

## Vitamin-D Needs

A major food source of vitamin D is dairy products. Vegans and Vegetarians who choose to eliminate dairy from their diets need to be conscious of their vitamin D levels. Ten minutes in the sunshine each day can provide appropriate levels of vitamin D but in the winter months it would be wise to consider supplements. Also, children who are deficient in vitamin D may be at an increased risk for Rickets Disease and bone deformities. Other individuals who may be at higher risk are dark skinned individuals, people with fat mal-absorption, obese people, bypass surgery patients, lactating women, people with limited sun exposure, and older adults. Calcium and vitamin D are dependent on each other for proper absorption so it's important to obtain optimal amounts of each. Vitamin D can be obtained through fortified orange juice, dairy products (depending on vegetarian type) and fortified cereals and grains.

## Iron Needs

Meat products are the main source of iron in the typical American diet. With the elimination of meats and meat products, there is an increased risk for anemia unless enough iron is consumed from other foods. Iron is responsible for creating hemoglobin in your red blood cells to transport oxygen throughout the body. When your iron stores are deficient, your body has less hemoglobin and cannot get enough oxygen. Symptoms of iron deficiency include, but are not limited to, feeling weak and dizzy, looking pale, headaches, mood changes, shortness of

breath, trouble concentrating, and dizziness. Children may show a short attention span, stunted growth, and developmental delays. Women are at a higher risk of iron deficiency due to their menstrual cycle. Other conditions may increase the risk of creating an iron deficiency such as ulcers, hemorrhoids, cancer, Celiac's disease, surgery to the stomach or small intestine, and pregnancy. Vegetarian sources of iron include spirulina, cooked soybeans, pumpkin seeds, quinoa, tomato paste, white beans, spinach, prunes and prune juice, lentils, molasses, and dried peaches. Recommended iron intake for pre-menopausal women is 33 mg / day which drops after menopause to 14 mg / day. The recommended intake for men is also 14 mg / day. Vegetarians iron recommendations are higher than they are for meat eaters. This is because plant-sources of iron are less efficiently absorbed in the body than meat so it is important to try and obtain iron from as many sources as possible to ensure optimal absorptions.

### Vitamin-B-12 Needs

Also known as Macrocytic Anemia; causes red blood cells to not mature properly. It results in the blood cells losing their nucleus and having a decreased size during their growth. Vegetarians are at a high risk of B-12 deficiency because most B-12 is derived from animal sources. Seafood is amongst the highest food supplier of Vitamin- B-12. Symptoms of B-12 deficiency are weakness, lethargy, diarrhea or constipation, weight loss, bruising easily, bleeding gums, sore tongue, rapid heartbeat and increased breathing rate, depression, mood changes, memory loss, difficulty walking, and tingling in the fingers and toes. Other conditions that may increase your risk are Celiac's disease, Crohn's disease, excessive alcohol consumption, autoimmune disorders, bacterial infections, viral infections, surgery to the stomach or small intestine and lacking the protein called the intrinsic factor. Great sources of vegetarian B-12 include fortified foods such as meat substitutes, non-dairy milks, Brewer's yeast and nutritional yeast, and supplemental B-12 tablets.

### Zinc Needs

Zinc is crucial to your immune system, skin, and neurological health. A minimum of 15 mg of zinc per day is needed for optimal health. Vegetarian sources include wheat germ, pumpkin seeds, beans, wild rice, leeks, lentils, cashews, sunflower seeds, swiss chard, baked potatoes, oats, mustard greens, and ginger root.

### Omega-3 Fatty Acid Needs

These fatty acids commonly found in fatty fishes and pasture raised beef can be hard to obtain through a vegetarian diet. They are essential for a healthy nervous system, help to fight inflammation, are shown to prevent brain degeneration, support memory functioning, lower LDL cholesterol, lower blood pressure, support skin and eye health, and help to lubricate the joints. The best vegetarian sources of Omega-3 fats are fresh, ground flax seed and walnuts.



### Other Nutritional Concerns

Although these are three of the most common nutritional deficiencies for vegans and vegetarians, there is a risk of deficiency in any vitamin or mineral with the exclusion of whole food groups from your diet. If you have any concern or doubt it would be best to discuss your diet with a doctor or nutritionist, and consider investing in a high quality vegan multiple vitamin if you have a hard time obtaining recommended amounts through whole foods first.

## SOY



### Potential Benefits

- High in isoflavones which are plant hormones that are believed to help lower risk of heart disease and reduce “bad” cholesterol levels.
- Isoflavones may prevent bone loss therefore lowering risk of Osteoporosis.
- Some evidence suggests that eating soy may reduce risk of developing breast cancer, uterine cancer, and has the potential to cure childhood Leukemia. In addition, in women who have already had breast cancer, it could prevent reoccurrence.

### Potential Dangers

- Soy is one of the 8 most common allergy foods.
- There is a high prevalence of soy intolerance.
- Recent claims suggest that high intake of soy has been linked with cognitive impairment and Alzheimer’s disease later in life.
- There is an increasing concern that the thyroid, which is responsible for regulating metabolism and hormone secretion, can increase the risk of developing hypothyroidism (slowing of the metabolism.) Another concern is that soy may reduce the absorption of thyroid medications in individuals with a pre-existing thyroid condition.
- Isoflavones are a type of phytoestrogen which perform functions in the body that are similar to estrogen. Isoflavones may decrease the rate of prostate cancer in men. However, high soy intake in vegan and vegetarian males has been shown to decrease testosterone levels. This drop in

testosterone can cause a decrease libido and decrease ability of the body to carry out the functions of testosterone.

- For pescatarians, it is important to purchase wild seafood and fish as much as possible. Farm raised fish are usually higher in mercury and other toxins which can have adverse health effects.

The decision to consume soy is an individual one. It needs to be made based on current health status, family history of diseases and illnesses, and the most up to date research.

### Common Myths Surrounding Vegetarianism

1. “All vegetarians are the same.” Vegetarians live their lifestyle for varied reasons and in varied ways. There is not a “one size fits all” description for what a vegetarian lifestyle is or why meat is not consumed.
2. “Vegetarians cannot get adequate protein.” Plant sources can be packed with protein when consuming beans, whole grains, and soy products.
3. “All vegetarians use tofu as their primary source of protein.” Not all vegetarians eat tofu. It is possible, and often the preferred method, to focus a vegetarian diet around legumes, seeds, nuts, grains, and fresh fruits and vegetables excluding soy tofu products.
4. “Vegetarians cannot find animal-free options when eating socially.” Almost all restaurants provide at least one veggies dish on their menu, green salads, steamed veggies, grains, and vegetarian soups.
5. “All vegetarians are healthier than animal consumers.” When it comes to nutrition, there is no right and wrong; rather, it is a matter of personal preference, medical history, individual nutritional needs, lifestyle, and culture. Some vegetarians choose to focus their food options around highly processed, high sugar, animal-free products which results in a poor health status. Vegetarians who properly mind their dietary intake have the potential to be very healthy individuals, as do animal product consumers who moderate meat consumption.