



Vegetarian Nutrition

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RD Resources for Consumers:

Protein in Vegetarian and Vegan Diets

Protein is a nutrient made of amino acids—the building blocks for many of your body’s structures, including muscle, bone, skin, and hair. They also play a role in the creation of many substances that your body requires to go about its everyday business of living.

Some amino acids that cannot be made in the body are termed “essential.” We must get them from the food we eat. It is not difficult to meet your protein needs on a vegetarian or vegan diet. In fact, studies show that vegetarians and vegans usually meet or exceed their protein requirements. You just need to focus on including protein-rich foods in meals and snacks throughout the day.

Plant Proteins

Most plant foods, with the exception of soy, quinoa, and spinach, may be low in one or two of the essential amino acids, but you can get enough of all these amino acids by including a variety of whole plant foods in your diet. It was once thought that plant proteins needed to be combined within a meal by mixing grains and legumes to create a “complete” protein, also called complementary proteins, with good amounts of all essential amino acids. Now we know that the liver can store the amino acids so we don’t have to combine them in one meal.



Legumes, which include beans, lentils, and dried peas, and soy, nuts and seeds, are rich sources of protein, but whole grains and vegetables contain protein, too.

Some whole grains, such as wheat varieties like farro, Kamut®, and wheat berries provide up to 11 grams of protein per cup. Even vegetables can provide protein, such as spinach (5 grams per cup) and peas (8 grams per cup).

A variety of easy-to-use meat alternatives can be found in most supermarkets, such as veggie burgers, meatless bacon, hot dogs, and ‘beef’ crumbles, as well as faux chicken nuggets, sausage, and ‘beef’ strips. While these are simple solutions to meal planning, you’re better off choosing minimally processed plant foods that have lower levels of sodium and no artificial additives.

Many plant proteins, including beans, lentils, and soy, are naturally packed with other beneficial nutrients like fiber, vitamins, minerals, healthy fat, and antioxidants, and contain very little saturated fat, sodium and cholesterol. This may be one reason why vegetarian and vegan diets are linked with lower disease risk.

Lacto-Ovo Vegetarian Proteins

Animal protein, such as that found in meat, dairy and eggs, is considered “high quality” protein because it has good amounts of all essential amino acids. Meeting your protein needs may be more easily accessed on a vegetarian (versus vegan) diet, because you can include high quality animal protein sources such as milk, cheese, cottage cheese, and eggs to help meet protein needs. Some vegetarians choose to use these animal proteins, however, it’s important to choose reduced-fat dairy products and eat dairy and eggs in moderation to avoid excess intake of saturated fat and dietary cholesterol.

How Much Protein Does a Body Need?

The overall daily protein recommendation for vegetarians is the same as for every healthy person: 0.4 grams per pound of body weight. For example, if you weigh 150 pounds, you would multiply 150 x 0.4 = 60 grams of protein for your daily need. Vegans and older adults may benefit from a slightly higher amount of protein—approximately 0.5 grams per pound of body weight.

The Bottom Line

While many people think protein can be a challenge for vegetarians and vegans, it's easier than you think to meet your needs. Focus on choices that include plenty of whole, minimally processed plant foods (see Protein-rich Plant Foods) at each meal and snack, and avoid filling up on highly processed, low-nutrient foods, such as chips, cookies and sweets, and refined grain crackers, which can crowd out protein in your diet.

A registered dietitian nutritionist (RDN) can help you develop a healthy vegetarian eating plan that meets your needs. **To find an RDN in your area, visit www.eatright.org**

Protein-rich Plant Foods

| Food | Serving | Calories | Protein (g) |
|--------------------------|--------------|----------|-------------|
| Legumes (cooked) | | | |
| Lentils | ½ cup | 101 | 9 |
| Black Beans | ½ cup | 114 | 8 |
| Pinto Beans | ½ cup | 123 | 8 |
| Red Kidney Beans | ½ cup | 112 | 8 |
| Black-eyed Peas | ½ cup | 100 | 7 |
| Chickpeas | ½ cup | 134 | 7 |
| Soy Foods | | | |
| Tempeh | ½ cup | 160 | 16 |
| Veggie burger (average)* | 1- 70 gram | 124 | 11 |
| Tofu* | ½ cup | 94 | 10 |
| Soymilk* | 1 cup | 132 | 8 |
| Vegetables | | | |
| Peas, cooked | ½ cup | 67 | 5 |
| Artichoke, cooked | 1 medium | 100 | 4 |
| Spinach, cooked | ½ cup | 41 | 3 |
| Grains | | | |
| Kamut | ½ cup | 126 | 6 |
| Wheat Berries | ½ cup | 151 | 6 |
| Quinoa | ½ cup | 111 | 4 |
| Oatmeal | ½ cup | 79 | 3 |
| Seeds | | | |
| Pumpkin Seeds | 1 ounce | 159 | 9 |
| Flax Seeds | 1 ounce | 140 | 6 |
| Sunflower Seeds | 1 ounce | 140 | 6 |
| Chia Seeds | 1 ounce | 138 | 5 |
| Nuts | | | |
| Peanut Butter | 2 tablespoon | 188 | 7 |
| Almonds | 1 ounce | 163 | 6 |
| Pistachios | 1 ounce | 160 | 6 |
| Hazelnuts | 1 ounce | 181 | 4 |
| Walnuts | 1 ounce | 185 | 4 |

*Nutrition information varies by brand

Chart provided by Sharon Palmer, The Plant-Powered Diet. New York, New York: The Experiment. (2012)



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