



Vegetarian Nutrition

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RDN Resources for Consumers:

Protein in Vegetarian and Vegan Diets

Protein is a nutrient made of amino acids, which are the building blocks for many of your body's structures, including muscles, bones, skin, and hair. Amino acids also play an important role in the creation of many substances (such as hormones and enzymes) that you need to live a healthy life.

There are nine amino acids that our bodies cannot make on their own. These are considered “essential amino acids”. This means we must consume proteins containing these essential amino acids from the food we eat. Contrary to popular belief, it is not difficult to meet your protein needs on a vegetarian or vegan diet. Studies show that most vegetarians and vegans meet or exceed their daily protein requirements. Focusing on a variety of protein-rich foods throughout the day will ensure you get the needed amounts of amino acids in your diet.

Plant Proteins

Most plant foods (with the exception of soy, quinoa, and spinach) may be low in one or two essential amino acids. However, you can get enough of the essential 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. Modern science has recently revealed that our liver can store amino acids long term, meaning we do not have to combine them in one meal.



Legumes (or pulses), which include beans, lentils, and dried peas are rich sources of protein. Other sources of plant-based protein include whole grains, vegetables, nuts, and seeds.

Certain whole grains, such as wheat varieties like farro, Kamut®, and wheat berries provide up to 11 grams of protein per cup. Protein-rich vegetables include spinach (5 grams per cup, cooked) and peas (8 grams per cup, cooked).

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. Meat alternatives can help ease the stress of meal planning or are a great item to bring to a friend’s cookout. However, you’re better off choosing minimally processed plant food sources of protein that have lower levels of sodium and no artificial additives.

Plant proteins are naturally packed with other beneficial nutrients like fiber, vitamins, minerals, healthy fat, and antioxidants. They typically contain very little saturated fat, sodium and cholesterol. This may be one reason why vegetarian and vegan diets are linked with a lower risk of disease.

Lacto-Ovo Vegetarian Proteins

Animal protein, such as that found in meat, dairy and eggs, is considered “high quality” protein because it has high amounts of all nine 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 eat dairy and eggs in moderation—about 3 servings of dairy products per day and 3 eggs per week for the average adult—to avoid excess intake of saturated fat.

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 (due to plant proteins being slightly less digestible) 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, sweets, and refined grain products, 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 <https://vegetariannutrition.net/find-a-registered-dietitian/>**

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)