

Introduction

By way of disclaimer, most of us in PBEC are not health care professionals or registered dietitians, and nutrition science is frequently being updated with new information. Many of us have a genuine interest in nutrition and are known to study the subject, share information with each other, and have ongoing discussions on how to eat healthy, delicious food. If you have specific questions about diet as it relates to any medical conditions you may have, it is always the best practice to discuss this with your healthcare team and also to do your own research.

For those of us in the UU Plant-Based Eating Club (PBEC) who have been eating either a mostly or completely plant-based diet for a while, we are used to being asked questions about nutrition. The most common question is, "Where do you get your protein?" I will try to give some high-level information and access to some trusted resources to answer this question and also point to some helpful nutrition information related to plant-based diets.

In America, there are not too many cases of protein deficiency, as by far the most common cause of protein deficiency globally is famine. To the contrary, many Americans get far more protein than the recommended amount.

How much protein does a person need?

As we discuss where one gets protein, let's begin with understanding how much one needs. According to the [U.S. Food and Drug Administration \(FDA\)](#) and [World Health Organization \(WHO\)](#), the average adult should consume .8 grams of protein per kilogram (or .36 pounds) of body weight daily. The human body cannot store protein as it can carbohydrate and fat, so we must consume adequate amounts every day to meet our needs for tissue building and repair and to maintain normal metabolism. This chart illustrates the amount of protein a person would need based on the FDA/WHO recommendation of .8 grams of protein per kilogram (.36 pounds) of body weight:

Weight of Adult	Daily Protein Target
100 pounds	36 grams
125 pounds	45 grams
150 pounds	54 grams
175 pounds	63 grams
200 pounds	72 grams

The U.S. Department of Agriculture (USDA) has simplified this for purposes of setting the Recommended Daily Allowance (RDA), and has established an [RDA of 50g of protein](#) for adults, which is what you see on nutritional panels in the US. Some groups, like the [Physicians Committee for Responsible Medicine](#) and [American Heart Association](#), break this down further and state that the average woman needs about 46 grams and the average man needs about 56 grams.

There seems to be a general consensus that people need a slightly higher amount of protein if they are physically very active, especially if they are regularly doing weight-lifting activities, and if they are pregnant. There are some nutritionists that believe that people's protein needs are also higher if they are elderly. The USDA has a [nutrient calculator](#) that will calculate your recommended daily protein target taking into account your height, weight, age, and activity level. Bearing in mind that the science is still developing, you should do your own research and make a determination as to the amount of protein that is right for you.

How can I get enough protein on a plant-based diet?

Fortunately, meeting your protein requirements through a plant-based diet is not too challenging, and many people can do it without making any special effort at all. As the Physicians Committee for Responsible Medicine explains in an article titled [The Protein Myth](#):

“Amino acids, the building blocks of protein, can be synthesized by the body or ingested from food. There are 20 different amino acids in the food we eat, but our body can make only 11 of them. The nine essential amino acids, which cannot be produced by the body, must be obtained from the diet. A variety of grains, legumes, and vegetables can provide all of the essential amino acids our bodies require. It was once thought that various plant foods had to be eaten together to get their full protein value, otherwise known as protein combining or protein complementing. We now know that intentional combining is not necessary to obtain all of the essential amino acids. As long as the diet contains a variety of grains, legumes, and vegetables, protein needs are easily met.”

So what plant-based foods are good sources of protein?

Surprise ... they all are!

For most people, consuming a [calorie-sufficient diet with even moderate variety](#) will ensure a protein-sufficient diet.

Contrary to what many of us have been taught to believe, all plants (veggies, grains, beans, nuts, and yes, even fruits) as well as edible fungi (mushrooms) contain all amino acids, including the nine essential amino acids. Just to be clear, the protein density of plants is significantly less than that of animals (by density I mean the amount per weight and the amount per calorie of the food), so this means generally you have to eat a greater volume of plants than animals to achieve your daily protein targets.

I myself have had good success in eating a protein-rich diet of higher protein density plant-based foods by adopting a “greens, beans, and grains” strategy. It is important to choose whole grains, however, as processed grains such as white rice and white flour are poor sources of protein compared to their unprocessed counterparts. Tofu, seitan, and tempeh are also high-density plant sources of protein, and tempeh has the advantage of being fermented which imparts additional health benefits. Here are the grams of protein in some widely available foods:

Food	Protein
Tofu (firm), 1 cup (252 grams)	44 grams
Seitan, 200 grams	45 grams
Tempeh, 200 grams	41 grams
Mixed nuts, 1 cup	24 grams
Pumpkin seeds, ½ cup	21 grams
Lentils, 1 cup cooked	18 grams
Kidney beans, 1 cup	15 grams
Chickpeas, 1 cup cooked	15 grams
Black beans, 1 cup	15 grams
Oats, 1/2 cup uncooked	13 grams
Whole wheat bread, 2 slices	8 grams
Quinoa, 1 cup cooked	8 grams
Whole wheat pasta, 1 cup	7 grams
Farro, 1 cup	7 grams
Brown rice, 1 cup	6 grams
Peanut butter, 2 tablespoons	7 grams
Soy milk, 1 cup	7 grams
Nutritional yeast, 1 tablespoon	5 grams
Spinach, 1 cup cooked	5 grams
Kale, 1 cup cooked	4 grams
Broccoli, 1 cup cooked	4 grams

This information came from the [MyFoodData.com protein calculator](https://myfooddata.com/protein-calculator), which you can use to look up the protein content and other nutritional information in foods. The [USDA "FoodData Central" Food Calculator](https://www.ars.usda.gov/fooddata-central/) is a similar tool, although many of the foods are measured by weight rather than volume so the serving sizes may be less intuitive.

What does this look like in real life?

What might a whole foods, plant-based diet for one day look like? Below is the actual menu from a day's meals for a member of the Plant-Based Eating Club. This member is a 150-pound male so his protein requirement is 54 grams. You can see he easily obtains 90 grams of protein which is 1.3 g/kg for his body weight. This is more than 160% of his daily requirement.

Typical Menu from One Day

	Calories	Protein in grams
Breakfast		
Oatmeal, steel-cut, 12 oz. cooked	242	8.6
Soy milk, plain, ½ cup	46	4.5
Banana, 1 medium	105	1.3
Blueberries, 1 cup frozen, no sugar	59	.5
Flax seeds, ground, 1 tbsp	37	1.3
Walnuts, ¼ cup	163	3.8
Coffee, black, 16 oz., prepared from grounds	5	.6
Sub-total for breakfast	657	20.6
Lunch		
Buckwheat groats, roasted, 12 oz. cooked	313	11.5
Garbanzo beans, canned, drained, ¾ cup	175	8.0
Mushrooms, cooked from fresh, 2 oz.	16	1.2
Broccoli, cooked from fresh, 4 spears	52	3.5
Onion, red, cooked from fresh, 2 slices of medium	11	.3
Kale, cooked from fresh, 1 cup chopped	42	3.5
Tahini, 2 tbsp	78	5.1
Nutritional yeast, 1 tbsp	40	6.0
Mid-afternoon snack – Apple, medium	95	.5
Sub-total for lunch	822	39.6
Dinner		
Spaghetti with tomato sauce, homemade, 16 oz.	486	16.4
Rye bread, 2 slices	130	4.3
Humus, Cedars Original, 4 tbsp	320	8.0
Sub-total for dinner	936	28.7
Total for all meals	2,415	88.9

Eating a grain bowl for lunch, as this person did, is an effective way to use the “greens, beans, and grains” strategy to provide for an array of healthy, protein-rich foods that your body will appreciate. If you don't have time to prepare a grain bowl, you can add tofu, edamame, or beans to a salad for a high-protein lunch (and don't forget the nuts and seeds!). Other quick-meal options include a can of lentil soup with a slice of whole wheat bread, and a can of bean chili served over a baked potato and topped with broccoli. Just be aware that processed foods such as canned soups and packaged breads usually include salt, sugar, oil, preservatives, and/or other undesirable ingredients. To avoid eating a lot of processed foods, many plant-based eaters do batch cooking on the weekends so that they have cooked whole grains and vegetables on hand at all times in the refrigerator and freezer. This is the gold standard, and one that I am always trying to achieve!

If you would like to keep track of your daily protein consumption, you might consider using the [MyFoodData.com protein calculator](#) or the [Cronometer](#) food nutrient calculator. They both have free versions and are relatively easy to use.

Is it a problem to consume more protein than the recommended dietary allowance (RDA)?

Based on my nutritional literature scan I found no detrimental effects of consuming high or very high amounts of plant-based protein. Consuming more animal-based protein than you need, however, may cause health problems. For example, your kidneys are required to work harder, and unused protein is converted into glucose which, if not immediately burned off, is stored in the body as fat. In addition, if you are getting excess protein from animal sources, you are also by necessity ingesting a lot of saturated fat and cholesterol and little if any fiber.

These negative effects can really add up over time. According to the [Physicians Committee for Responsible Medicine](#):

“Evidence shows that diets high in animal protein can actually lead to early death. A study published in 2019 found that those who consumed more meat and protein from animal-based sources in place of plant-based sources increased their risk of death from chronic disease by 23%. Another study found that participants who ate the most animal protein had a fivefold increase risk of death related to diabetes. Those younger than 65 who ate the most animal protein had a 74% increased risk for death from any cause and a fourfold increase in death related to cancer.”

Where can I find trusted resources?

Given that physicians are required to spend no more than a few hours learning about nutrition before they are licensed, and the outsized role that pharmaceutical companies play in the health care field, it is not surprising that unbiased resources about plant-based eating can be hard to find. There is no financial incentive to promoting a whole foods, plant-based diet, whereas companies are making literally billions of dollars selling processed junk foods and pharmaceutical treatments for the many diseases that the standard American diet causes.

I am therefore grateful for physician-led organizations like [Physicians Committee for Responsible Medicine](#), [Nutrition Facts](#), and the [T. Colin Campbell Center for Nutrition Studies](#) for sharing unbiased medical research and providing resources to people who are interested in transitioning to healthier diets. I would commend their websites to anyone interested in exploring the nutritional aspects of a plant-based diet.

Comments and questions?

I hope this article has been helpful, and welcome your feedback or additional questions. To reiterate, we at PBEC are not physicians or nutritionists, but rather a group of laypeople who are interested in learning more about how plant-based eating can improve our health and the health of our planet. Over the past few years, PBEC has hosted a number of movie nights, book discussions, and diet support groups where we have discussed and supported each other on our journeys to improve our health by eating nutritious, plant-based foods. We look forward to doing more of this, and also continuing the ongoing discussions on our email list. To submit a question or comment, or to join our email list, send an email to UU-Plant-Based-contact-us@googlegroups.com.

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