

Macro Series

**PLANT BASED SOURCES
FOR PROTEIN**





“Most people don’t have a problem going on a diet. They problem is being consistent on their diet.”

Dr. Matthew Kulka

Switching to a vegetarian or plant-based diet can offer many benefits. Still, one area that concerns people the most is getting proper protein. Whether you lift, exercise, or just want to incorporate more protein into a plant-based diet, there are several plant-based sources of protein you can add to your diet to meet your macronutrient goals.

What is Protein?

Protein is one of three major macronutrients (carbs and fats) required for the body to function. The protein molecule is composed of amino acids, which help facilitate many critical processes in the body, including:

- Digestion
- Creating hormones
- Maintaining healthy skin and hair
- Forming muscle fiber
- Delivering energy to cells
- Repairing tissue

Plant Protein vs. Animal Protein

There is a perception that animal-based protein is superior to plant-based protein or that vegetarians can’t get as much protein as they need for exercise or body-building. However, while most animal-based proteins are considered complete proteins (i.e., they contain all essential amino acids), complete proteins are found in several plant-based foods, such as soy and quinoa.

Additionally, eating plant-based foods can give you all of the essential amino acids you require while offering several other benefits, such as increased antioxidants and fiber intake. Below, we listed the best sources of plant-based protein, which can give you complete proteins as long as you eat a variety of these foods.

Healthy Plant-Based Sources of Protein

- 🌱 **Beans:** Just a half cup of any bean variety packs 6 to 9 grams of protein — plus 6 to 8 grams of fiber to keep you full. Beans may also help lower cholesterol and promote healthy gut bacteria.
- 🌱 **Lentils:** Cooked lentils contain 8.84 g of protein per ½ cup. Red or green lentils contain plenty of protein, fiber, and key nutrients, including iron and potassium. They are a great source of protein to add to a lunch or dinner routine. Whether brown, green, or red, adding a half cup of cooked lentils to soups, curries, tacos, or salads adds about 12 grams of protein to your meal.
- 🌱 **Edamame:** These lightly boiled or steamed soybeans—often served still in their shell—make a great snack or appetizer. One cup of edamame (not in its shell) packs 18 grams or 8.5 g of protein per ½ cup. Since whole soy is a complete protein, edamame provides all the amino acids your body needs but can't make on its own. These are great additions to a salad for some added protein.
- 🌱 **Chickpeas:** Cooked chickpeas are high in protein, containing around 7.25 g per ½ cup. Chickpeas can be eaten hot or cold and are highly versatile with plenty of online recipes. They can, for example, be added to stews and curries or spiced with paprika and roasted in the oven. A person can add hummus made from chickpea paste to a sandwich for a healthful, protein-rich alternative to butter.
- 🌱 **Oats:** A half-cup serving of oats, for instance, adds 5 grams of protein to your morning meal. Eating oats is an easy and delicious way to add protein to any diet. Half a cup (40 grams) of dry oats provides approximately 5 grams protein and 4 grams fiber. Oats also contain magnesium, zinc, phosphorus, and folate.
- 🌱 **Ezekiel Bread:** With 4g of protein per slice, this bread is a nutrient-dense alternative to traditional bread. It is made from barley, wheat, lentils, millet, and spelt. Ezekiel bread is an excellent choice for bread lovers who want a more nutritious way to eat toast or sandwiches. Get even more protein by toasting Ezekiel bread and spreading it with peanut or almond butter.
- 🌱 **Nuts:** Nuts, seeds, and their derived products are great sources of protein. One ounce (28 grams) contains 5–7 grams of protein, depending on the variety. Nuts and seeds are also great sources of fiber and healthy fats, along with iron, calcium, magnesium, selenium, phosphorus, vitamin E, and certain B vitamins. They likewise contain antioxidants, among other beneficial plant compounds.

When choosing which nuts and seeds to buy, keep in mind that blanching and roasting may damage the nutrients in nuts. Therefore, it's best to reach for raw, unblanched versions whenever possible. Also, try opting for natural nut butters to avoid the oil, sugar, and excess salt often added to many popular brands. Grab a handful as a snack, or garnish your morning oats with a tablespoon of nut butter to add protein and filling fats.
- 🌱 **Seeds:** Like nuts, seeds are a great source of protein and unsaturated fats. For a snack, reach for sunflower seeds containing 8 grams of protein per ounce. Pumpkin seeds have 7 grams per ounce. You can also sprinkle hemp seeds, which have about 10 grams per ounce, on your morning oatmeal or toast.

Healthy Seed Options

- 🌱 **Chia Seeds:** Chia seeds are complete sources of protein that contain 2g of protein per tablespoon. Chia Seeds are rich in fiber and heart-healthy Omega-3 fatty acids. Try adding chia seeds to a smoothie, sprinkling them on top of plant-based yogurt, or soaking them in water or almond milk to make a pudding. You can find chia seeds in supermarkets, health food stores, or you can buy them online.
- 🌱 **Hemp Seeds:** Like chia seeds, hemp seeds are a complete protein. Hemp seeds offer 5 grams of protein per tablespoon. Hemp seeds can be used similarly to chia seeds and can also be bought online.

Healthy Plant-Based Sources of Protein (Cont.)

- 🌱 **Nutritional yeast:** The secret ingredient in many vegan “cheese” sauces, nutritional yeast is a great source of protein and B vitamins. One tablespoon sprinkled on top of your meal adds two grams of protein.
- 🌱 **Beans with rice:** Separately, rice and beans are incomplete protein sources. Eaten together, this classic meal can provide 7 g of protein per cup. Try rice and beans as a side dish, or mix rice, beans, and hummus together, then spread on Ezekiel bread for a savory, protein-packed meal.
- 🌱 **Wild rice** contains approximately 1.5 times as much protein as other long-grain rice varieties, including brown rice and basmati. A cooked cup (164 grams) provides nearly 7 grams of protein, in addition to healthy amounts of fiber, manganese, magnesium, copper, phosphorus, and B vitamins. Unlike white rice, wild rice is not stripped of its bran. That's great from a nutritional perspective, as bran contains fiber and plenty of vitamins and minerals.

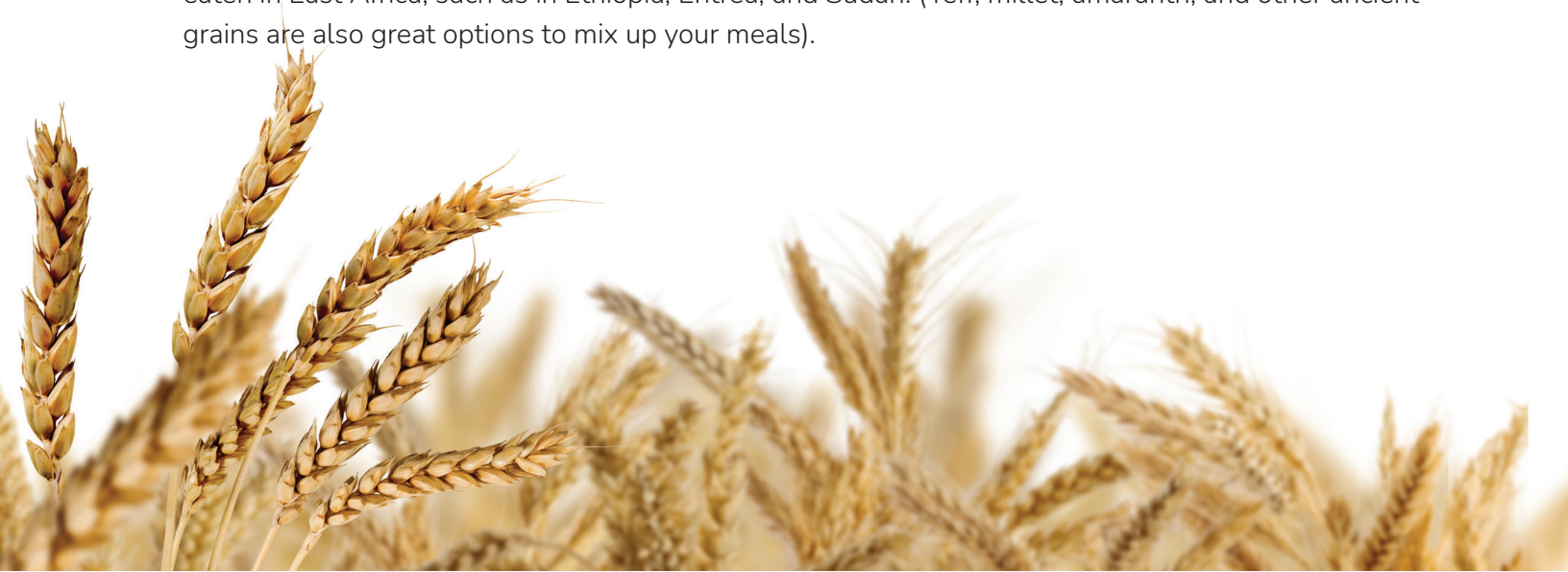
Grains: You probably think of grains as primarily carbohydrates, but they also pack a protein punch.

Healthy Grain Options

- 🌱 **Quinoa:** Quinoa is a grain with high protein content and is a complete protein. Cooked quinoa contains 8 g of protein per cup. This grain is also rich in other nutrients, including magnesium, iron, fiber, and manganese. It is also highly versatile. Quinoa can fill in for pasta in soups and stews. It can also be sprinkled on a salad or eaten as the main course.
- 🌱 **Spirulina:** Spirulina is blue or green algae that contain around 8 g of protein per 2 tablespoons. It is also rich in nutrients, such as iron, B vitamins—although not vitamin B-12—and manganese. Spirulina is available online as a powder or a supplement. It can be added to water, smoothies, or fruit juice. A person can also sprinkle it over salad or snacks to increase their protein content.
- 🌱 **Spelt and Teff:** Spelt and teff belong to a category known as ancient grains. Other ancient grains include einkorn, barley, sorghum, and farro. Spelt is a type of wheat and contains gluten, whereas teff originates from an annual grass, meaning that it's naturally

Gluten-free. Spelt and teff provide 10–11 grams of protein per cooked cup (250 grams), making them higher in protein than other ancient grains.

Both are excellent sources of various nutrients, including complex carbs, fiber, iron, magnesium, phosphorus, and manganese. They also contain B vitamins, zinc, and selenium. Spelt and teff are versatile alternatives to other grains, such as wheat and rice, and they can be used in many recipes ranging from baked goods to risotto. In fact, flour made from teff is the key ingredient in injera, a flatbread commonly eaten in East Africa, such as in Ethiopia, Eritrea, and Sudan. (Teff, millet, amaranth, and other ancient grains are also great options to mix up your meals).



Healthy Plant-Based Sources of Protein (Cont.)

- 🌱 **Soy Products:** Soy products are among the richest protein sources in a plant-based diet. The protein content varies with how the soy is prepared.

Healthy Soy Options

- 🌱 **Tempeh:** Made from soybeans that are fermented and pressed into a block, tempeh is high in protein, prebiotics, and other nutrients. Because it's more compact than tofu, it's higher in protein—a three-ounce serving will give you 15 to 16 grams per ½ cup. Tempeh's firm but the chewy texture makes it a superb addition to sandwiches and salads. Or, crumble it to substitute for ground meat in recipes.
- 🌱 **Tofu:** Made from soybeans, Tofu is so versatile that you can use it in place of meat in a recipe or even as a base for creamy desserts. You'll get 8 grams of protein per 3.5-ounce serving.
- 🌱 **Firm Tofu** (soybean curds) contain about 10 g of protein per ½ cup. Look for non-GMO or organic varieties with short ingredient lists. Tofu has good calcium and iron levels, making it a healthful substitute for dairy products. People can try tofu as a meat substitute in a favorite sandwich or soup. Tofu takes on the flavor of the dish it is prepared in so that it can be a versatile addition to a meal. Tofu is also a popular meat substitute in some dishes, such as kung pao chicken or sweet and sour chicken.
- 🌱 **Seitan:** A complete protein made from mixing wheat gluten with various spices. The high-wheat content means that people with celiac or non-celiac gluten sensitivity should avoid it. For others, it can be a protein-rich healthful meat substitute. When cooked in soy sauce, which is rich in the amino acid lysine, seitan becomes a complete protein source offering 21 g per 1/3 cup.
- 🌱 **Mycoprotein:** Mycoprotein is a fungus-based protein. Mycoprotein products contain around 13g of protein per ½ cup serving. Products with mycoprotein are often advertised as meat substitutes and are available in forms such as “chicken” nuggets or cutlets. However, many of these products contain egg white, so people must check the label. A very small number of people are allergic to *Fusarium venenatum*, the fungus from which the mycoprotein brand known as Quorn is made. People with a history of mushroom allergies or many food allergies may wish to consider another protein source.
- 🌱 **Plant-based beverages:** Some milk substitutes, such as soy or pea milk have nearly as much protein as cow's milk. Look for sweetened or lightly sweetened varieties.



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- **Meat substitutes:** Faux meat products can make the transition to a plant-based diet easier for meat lovers, but they’re not all healthy. Choose options with minimal ingredients, ample protein, and reasonable amounts of saturated fat and sodium.
- **Vegetables:** They’re not the most abundant sources of protein, but if you are eating a diet heavy in vegetables, many can pack a good punch, typically containing 4-5 grams of protein per cooked cup.



Vegetables with the Highest Protein Content

- **Broccoli:** 4 grams of protein per cooked cup
- **Spinach:** 5.3 grams of protein per cooked cup
- **Asparagus:** 4.3 grams of protein per cooked cup
- **Artichokes:** 4.2 grams of protein in a medium artichoke
- **Potatoes:** 8 g of protein per 1 large potato. Potatoes are also high in other nutrients, such as potassium and vitamin C. Add 2 tablespoons of hummus for a flavorful snack that is healthier than butter-covered potatoes and increases the protein content. Two tablespoons of hummus contain about 3 g of protein.
- **Sweet Potatoes:** 2.1g of protein per cup. Sweet potatoes are an excellent source of beta-carotene, vitamin C, and potassium
- **Peas:** 8.6 grams of protein per cooked cup. Moreover, a serving of green peas covers more than 25% of your daily fiber, thiamine, folate, manganese, and vitamin A, C, and K needs.
- **Brussels Sprouts:** 4 grams of protein per cooked cup 9. Soybean Sprouts- 9.2 grams of protein
- **Sweet Corn:** 2.9 g of protein (Although technically a grain, sweet corn is another common food that contains about as much protein as these high protein vegetables.
- **Mushrooms:** 3.9 grams of protein-If mushrooms are your thing, eat up. Portobello- 4g of protein per cooked cup, Shitake- 3.5g of protein per cup, Cremini- 2g of protein per cup

Healthy Plant-Based Sources of Protein (Cont.)

Leaf Greens with High Protein Content

Note: Cooking reduces the water content of the greens, allowing you to eat more greens and protein per cup

- **Collard Greens:** 5g of protein per cooked cup
- **Mustard Greens:** 3.5g per cup
- **Swiss Chard:** 3.5g per cup
- **Kale:** 2.5g per cooked cup

Fruit with High Protein Content

Note: Fresh fruit generally has a lower protein content than vegetables.

- **Guava:** 4.2g protein per cup.
- **Avocado:** 4g protein per cup. Considering avocado amongst high protein fruits may surprise you, but Avocados are loaded with healthy unsaturated fats that help keep joints supple and blood pressure stable. They are also packed with fibers that are essential for weight loss.
- **Apricots (dried):** 2g protein per cup.
- **Kiwifruit:** 2g protein per cup.
- **Grapefruit:** 2g protein per cup.
- **Blackberries:** 2g protein per cup.
- **Mulberries:** 2g protein per cup. Now considered a superfood as they are rich in many vitamins and minerals, including vitamin C, iron, vitamin K1 (important for blood clotting and bone health), potassium, and vitamin E.
- **Cherimoyas:** 2g protein per cup
- **Nectarines:** 2g protein per cup
- **Bananas:** 2g protein per cup

Protein Shakes and Supplements

Some protein powders are plant-based. Depending upon the plants used to make the powders, they may be complete or incomplete proteins. The position of the American Dietetic Association is that while food supplements can help people meet their daily nutrition goals, eating a wide variety of nutrients rich in protein is usually a better strategy for meeting daily goals.

Note: Some protein supplements may also be high in sugar or sodium to improve the taste, so it is important to read the nutrition labels.

