

**Q.** I'm considering becoming a vegetarian but am concerned about getting enough protein. Is it possible for an athlete to get adequate protein on a vegetarian diet?

**A.** The quick answer is yes, you can get adequate protein from plant sources, but you need to follow some simple guidelines and perhaps try some new foods. First I might mention that there are many world class athletes who are vegetarians. I was president of a large running club in Southern California for a few years. One young runner who was the outstanding endurance athlete in the club wore a running shirt that said, "Vegetable Powered." He was a vegetarian and a superior runner.

A classic Swedish study showed that when endurance athletes cut back on meat and dairy and ate more plant-based foods, their endurance improved dramatically. We now know this has to do with "carbohydrate loading," a common practice among marathon runners. Even if they are not doing a marathon, runners tend to eat more like vegetarians before a race to improve their results.

First, let's look at how much protein you need. An average adult should eat at least 0.4 grams of protein per pound (or 0.8 grams per kilogram) of body weight. For example, a 175-



pound man should eat about 64-70 grams of protein daily. A 150-pound woman would need about 55-60 grams of protein daily. Athletes, body builders, and growing teenagers have greater protein needs. They should eat at least 0.5-0.75 grams of protein per pound of body weight daily (1.2-1.7 grams of protein per kilogram of body weight). Much of this extra protein for teens and athletes is met simply by eating more food, as long as it is unrefined and not empty-calorie food such as snack foods, sweets, and soft drinks.

Using the higher figures, a 175-pound body builder who lifts 4-5 days per week would need about 0.6 grams of protein per pound of weight (1.4 grams per kilogram of body weight) which would be about 105-110 grams of protein daily. For a 115-pound woman athlete, this would be about 75-80 grams of protein daily.

Let's look at the table below showing grams of protein per serving of various vegetarian foods to see how we can do this. Find foods you like from the list. Look at food labels of other foods to see how much protein they contribute. Aim for your protein goal, such as 75-110 grams per day. Be sure to include 1-2 protein-rich foods each meal.

Vegetarian Protein-Rich Foods	Serving Size	Protein (g)*
Soybeans, cooked	1 C	29
Tofu, raw, firm, prepared with calcium sulfate	½ C	20
Beans (white), cooked	1 C	19
Lentils, cooked	1 C	18
Morningstar Griller®, Prime	1 patty	17
Beans (black, pinto, lima), cooked	1 C	14-15
Cottage cheese, low-fat	½ C	14

Vegetarian Protein-Rich Foods	Serving Size	Protein (g)
Gardenburger®, classic veggie	1 patty	12
Yogurt, nonfat	1 C	11
Milk, nonfat	1 C	8
Soymilk, no sugar added	1 C	9
Egg substitute	¼ C	8
Peanuts	1 oz	8
Wild rice, cooked	1 C	7
Egg, boiled	1 large	6
Almonds	24 nuts	6
Couscous, cooked	½ C	6
Oatmeal, cooked	1 C	6

Other Vegetarian Proteins		
Sunflower seeds, dry roasted	1 oz	5
Rice, brown, cooked	1 C	5
Multi-grain bread	1 slice	3
Blackberries, fresh	1 C	2
Vegetables (beets, broccoli), cooked	½ C	1-2
Watermelon	1 wedge	2
Peaches, fresh	1 C	2
Raspberries, fresh	1 C	1
Banana	1 medium	1

**Next page: Sample meals**

\*Protein grams are rounded from the nearest decimal point.



The following sample meals show how even very athletic people can get adequate protein.

Sample Breakfast	
Food	Protein (g)
Oatmeal, 1 C	6
Soymilk, no sugar added, 1 C	9
Peanut butter, 1 T	4
Whole-wheat bread, 1 slice	4
Boiled egg, 1 large	6
Fresh orange, 1 large	2
<b>Total Protein</b>	<b>31 g</b>

Sample Lunch	
Food	Protein (g)
Veggie burger, 1 patty	12
Soymilk, no sugar added, 1 C	9
Lentil soup, 1 C	18
Mixed nuts, 1 oz	5
Apple	1
<b>Total Protein</b>	<b>45 g</b>

Sample Dinner	
Food	Protein (g)
Vegetarian entrée, (e.g. Griller®)	17
Green peas, fresh, ½ C	4
Brown rice, 1 C	5
Salad with ¼ C chopped walnuts	5
Red grape juice, 1 C	1
Oatmeal cookies, 2 medium	3
<b>Total Protein</b>	<b>35 g</b>

### Total protein for the day: 111 g

The daily protein goal for an active, 175-pound, strength-training man is at least 105 grams of protein. For an active, 115-pound woman the goal is 75 grams/day. By making wise choices, it is easy to get adequate protein daily.

### Additional Advice

- **Eat grains and legumes** – they complement each other to improve protein quality. Soy protein, even by itself, is as high as any animal protein. Avoid empty-calorie foods. Eat enough to maintain your weight (or increase it if building muscle).
- **Within an hour or so after each workout, eat at least 20 grams of protein** for more efficient uptake of protein by your muscles. An easy way to add extra protein at any meal or after a workout is to include a glass or two of nonfat milk or soymilk. Both are excellent protein sources for growing muscle.
- **You don't need to take protein powder to reach your goal.** Once you've met your protein needs, taking more will not cause muscle to grow faster – it will only add to your fat level if it is extra calories.
- **By choosing proteins from vegetable sources, you avoid much of the saturated fat and cholesterol that animal foods are loaded with.** This will give your heart and circulation a big advantage for good health and fitness throughout your life.
- **Be careful of refined foods.** Foods such as white bread, chips, soft drinks, and other snack foods are low in protein and high in calories.
- **For maximum protein, eat whole foods.**

Source: USDA National Nutrient Database for Standard Reference, Release 22, [www.nal.usda.gov/fnic/foodcomp/search](http://www.nal.usda.gov/fnic/foodcomp/search)

