

# WHAT DOES LESS MEAT LOOK LIKE?

## SERVING UP PROTEIN WHILE REDUCING MEAT IN YOUR FOOD SERVICE

Getting enough protein is a frequent concern among food professionals and some of our customers. Understanding how much protein we need and the sources of protein along with planning and creative preparation are keys to serving protein-rich, healthy and delicious meatless meals!

## CAN I GET ENOUGH PROTEIN FROM PLANT-BASED FOODS?

**Yes!** A 1-ounce equivalent from the protein foods group has an equivalent amount of protein as 1 ounce of meat, poultry or fish, 1/4 cup beans (cooked), 1 egg, 1 tablespoon of peanut butter, or 1/2 ounce of nuts/seeds. With a proper combination of sources, vegetable proteins provide adequate protein and nutrients as well as many additional health benefits.

## HOW MUCH PROTEIN DO WE REALLY NEED?

Protein needs vary from person to person depending on their health, activity and body composition. The Institute of Medicine recommends that adults daily consume a minimum of 8 grams of protein for every 20 pounds of body weight.<sup>1</sup> However, it also sets a wide range for acceptable protein intake—anywhere from 10 to 35 percent of calories each day. As an example, the protein intake of someone who eats 2000 calories per day could range from 50 to 175 grams.

According to the Recommended Daily Allowances, the minimum daily protein requirement is 46 grams for women and 56 grams for men.<sup>2</sup> Using the chart below, essentially 1 egg, a piece of chicken or a cup of lentil with rice and a glass of milk will meet the daily protein need for the average weight adult woman. (Note: small amount of protein from other foods, such as grains and vegetables also add up throughout the day.)

Athletes are often concerned about getting enough protein; but even 200-pound football players can adequately meet their protein needs with 109-150 grams of protein. This could be met with 3 meals of 30 grams and 2 snacks of 15-20 grams of protein. That's just a 3-ounce serving of meat or fish (size of a deck of cards) or a cup of beans at each meal with a handful of nuts or a cup of yogurt for snacks over the course of the day.



## THE PROTEIN PACKAGE

Both animals and plants provide quality protein, but there are differences in their “packaging.”

- **FIBER:** Plant protein foods contain fiber, while animal proteins do not. Dietary fiber improves digestion and promotes satiety. It has also been associated with lower blood sugars and body weight and a healthier gut.
- **FAT:** Protein foods differ in the amount and type of fat they contain. Many animal proteins are higher in fat, particularly saturated fat, which is associated with heart disease and other chronic diseases. Seafood and fish contain heart-healthy omega-3 fats. Most plant proteins are very low in fat or contain healthier oils such as those in almonds and other nuts.
- **VITAMINS AND MINERALS:** Both animal and plant sources of protein have a variety of important minerals and vitamins. B-12 is the only vitamin available solely in animal foods. If an individual occasionally eats meat, eggs or dairy, they will obtain sufficient B-12. A strict vegan may need a B-12 supplement.
- **IRON:** Animal proteins contain heme iron, which is more readily utilized by the body. Plant sources have non-heme iron, which is less available for use. However, eating foods that contain vitamin C or other heme-containing foods together with the plant protein enhances the iron’s availability. For example, beans with chopped red peppers or tofu with broccoli.
- **AMINO ACIDS:** Our bodies can produce many of the amino acids we need, but there are some essential amino acids that we only obtain from the food we eat. Proteins from animals have a larger share of these essential amino acids, while plant proteins may have fewer than one or two. This shortage can slow down the efficiency at which the amino acids are used to build proteins. However, because we eat different types of plant proteins throughout the day, what one is missing, another provides. So, for example, eating rice with a legume provides a full set of amino acids, as does peanut butter on whole grain bread. Problem solved.

## TIMING ACTUALLY MATTERS

Most Americans meet or exceed their protein needs. But there may be some additional health benefits of spreading out daily protein intake, especially for athletes and those trying to lose weight. Typically, Americans eat most of their protein in the second half of the day – toward lunch and dinner. However, eating moderate protein throughout the day – starting at breakfast - increases the efficiency at which protein is utilized to build muscle. To maximize the rebuilding of muscles and protein use, aim for 20-30 grams of protein at each meal, which appears to be the maximum that muscles can synthesize at one time.



## A COMPARISON OF PROTEIN SOURCES:

Recommended protein intake per day is 46 grams for women and 56 grams for men.<sup>2</sup>

Food item	Typical serving	Protein (grams)
Hamburger patty	3 ounces	20
Chicken breast	3 ounces	28
Steak	3 ounces	26
Fish, salmon	3 ounces	22
Egg	1 large	6
Pinto beans, cooked	½ cup	11
Green peas, cooked	½ cup	5
Chick peas, canned	½ cup	7.5
Lentils, cooked	½ cup	9
Almonds	¼ cup	8
Peanut butter	2 Tablespoons	7
Tofu	4 ounces, ½ cup	11
Edamame	½ cup	8.5
Quinoa, cooked	1 cup	8
Brown rice, cooked	1 cup	5
Oatmeal, cooked	½ cup	3
Seitan (wheat gluten)	3 ounces	21
Milk, 2%	1 cup	8
Greek yogurt, low fat	7 ounces	20
Cheddar cheese	1 ounce	6.5

\*A standard serving of meat or poultry is 3 ounces, which is the size of a deck of cards or the palm of your hand.

### A COMPARISON OF THREE DAILY MENUS<sup>3</sup>

<b>With meat</b> 86 grams	<b>Vegan (no meat, dairy or eggs)</b> 87 grams	<b>Vegetarian (no meat, with dairy and eggs)</b> 85 grams
Breakfast: 2 eggs, sausage, whole grain toast, orange – 26 grams	Breakfast: oatmeal with nuts and granola; soy milk – 23.5 grams	Breakfast: Greek yogurt with granola and berries – 21 grams
Snack: yogurt (regular) – 8 grams	Snack: ½ peanut butter sandwich – 13 grams	Snack: boiled egg and a handful of almonds – 13.5 grams
Lunch: turkey sandwich with cheese, apple – 24 grams	Lunch: 1 cup lentil soup with whole grain bread, quinoa and kale salad – 24.5 grams	Lunch: Hummus sandwich (hummus, avocado, cheese, sprouts, tomato, cucumber on whole grain bread) – 24 grams
Dinner: roasted chicken, sweet potato, green beans, salad – 28 grams	Dinner: tofu stir fry with brown rice topped with sliced almonds – 26 grams	Dinner: vegetarian chili with corn bread, salad. – 26.5 grams

### REFERENCES

- 1 Institute of Medicine, Dietary Reference Intakes for Energy, Carbohydrate, Fiber, Fat, Fatty Acids, Cholesterol, Protein, and Amino Acids (Macronutrients). 2005, National Academies Press
- 2 Based on reference weights of 57 kg. (125 lb.) for women and 70 kg. (155 lb.) for men.
- 3 Source: USDA Composition Database