

Proteins Are Not Created Equal

The Power of Protein

Delicious. Satisfying. Keeps me strong.

These words are often used to describe the protein-rich foods we love and that help fuel our active lifestyles. But not all protein sources are created equal. Animal proteins, such as lean meats, eggs and lowfat dairy products are complete high-quality proteins that contain all the essential amino acids, or building blocks, the body needs to stay healthy. It's those types of foods that provide the body with the right mix of nutrition to build and maintain muscle mass that plays a key role in giving you the strength to live well.

Complete vs. Incomplete Proteins

Not all foods contain the same type of protein. Lean meats, eggs and dairy products are considered complete high-quality sources of protein that provide the full package of essential amino acids needed to stimulate muscle growth and improve weight management. Plant proteins such as grains, legumes, nuts and seeds are incomplete proteins in that they do not provide sufficient amounts of essential amino acids. In fact, research indicates that increasing consumption of high-quality complete proteins may optimize muscle strength and metabolism, and ultimately improve overall health.¹

Heme vs. Nonheme Iron

Lean meats contain heme iron, which is much more easily absorbed by the body than nonheme iron found in plant foods. Heme iron is an important dietary component for promoting cognitive health, including memory, ability to learn and reasoning. Heme iron is particularly beneficial for growing children because research indicates that some toddlers are at higher risk for iron deficiency, and childhood iron-deficiency anemia is associated with behavioral and cognitive delays.² Through an effect known as the "meat factor," beef helps the body absorb nonheme iron. Unlike plant proteins, beef is the food supply's most easily absorbed source of iron. In addition, beef is an excellent source of readily available zinc. The absorption of zinc from beef is about four times greater than that from a high-fiber breakfast cereal. As with iron, including meat in your diet also improves the absorption of zinc from other foods.

Weight Management

Research has shown that moderately increasing protein intake can be an effective and practical way to manage weight, and animal protein was shown to have a greater positive effect on weight loss than plant protein. Protein is more thermogenic than other nutrients, meaning that it takes more calories for your body to metabolize protein. In addition, protein generally increases satiety more than carbohydrate or fat and, in some individuals, helps maintain lean muscle mass.³

Choosing lean meat as a source of high-quality protein can also be a calorie-saver. For example, a 3-ounce serving of lean beef provides the same amount of protein (25 grams) as 1½ cups of beans, but in less than half the calories (about 180 vs. 374 calories in beans).

Delicious and Nutritious

Including high-quality animal proteins in the diet makes it easier to meet recommendations from other food groups and get all the essential nutrients you need for a healthy lifestyle. Pairing nutrient-rich produce and whole grains with a favorite naturally nutrient-rich lean beef meal helps you meet *Dietary Guidelines* and *MyPyramid* recommendations while meeting your high-quality protein needs.

These tasty, nutrient-rich meal ideas can help you *MEAT* your high-quality protein needs:

- Enjoy a salad topped with lean beef, yellow squash, tomatoes, cooked brown rice, garbanzo beans and a fresh lemon garlic dressing.
- Satisfy mid-afternoon snack attacks with ham-wrapped asparagus spears.
- Grill or broil kabobs of lean beef cubes, cherry tomatoes, onion wedges, pepper chunks and pineapple cubes.

Choosing a variety of nutrient-rich foods is important because different foods bring different nutrients to the table. For instance, fruits, vegetables and legumes provide fiber and vitamins A and C while lean beef, pork, eggs, fish, poultry and lowfat dairy products provide iron, zinc, vitamin B₁₂ and high-quality protein.

¹ Wolfe, R. The underappreciated role of muscle in health and disease. *American Journal of Clinical Nutrition* 2006; 84:475-82.

² Brotanek JM, Gosz J, Weitzman M, Flores G. Iron deficiency in early childhood in the United States: risk factors and racial/ethnic disparities. *Pediatrics* 2007; 120(3):568-75.

³ Paddon-Jones D, Westman E, Mattes R, Wolfe R, Astrup A, Westerterp-Plantega M. Protein, weight management, and satiety. *American Journal of Clinical Nutrition* 2008; 87(suppl): 1558S-61S.



**DISCOVER
THE POWER OF
PROTEIN
IN THE LAND OF
LEAN BEEF**



Discover the Power of Protein in the Land of Lean Beef

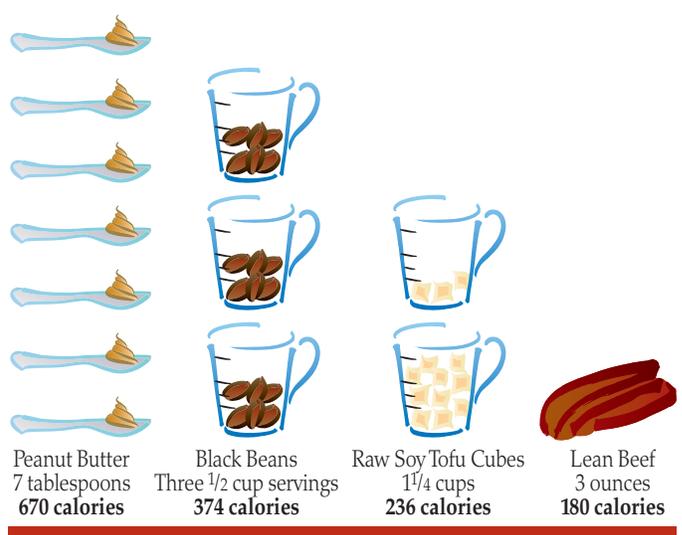
Lean beef is an excellent source of high-quality protein in a low calorie, nutrient-rich package — a 3-ounce serving of lean beef has less than 180 calories yet is a good or excellent source of 10 essential nutrients. Calorie-for-calorie, beef is one of the most naturally nutrient-rich foods. According to research published in the *Journal of the American Dietetic Association*, beef is the number one source of protein, zinc, and vitamin B₁₂; the number two source of selenium; the number three source of iron, vitamin B₆, phosphorus, niacin and potassium; and the number four source of riboflavin.⁴

Red meat's fat profile is often misunderstood and a common misperception is that animal proteins provide only saturated fat. Surprisingly, half the fat in beef is monounsaturated, the same type of heart-healthy fat found in salmon and olive oil. In addition, one-third of the saturated fat in beef is stearic acid, which studies have shown has a neutral or cholesterol-lowering effect. Did you know that there are 29 beef cuts that meet government guidelines for "lean"? With 25 grams of protein and less than 180 calories per 3-ounce serving, lean beef is a powerful addition to the diet.

The Caloric Cost of Plant Protein

- A 3-ounce serving of lean beef offers the most protein with the fewest calories when compared to plant proteins such as peanut butter, black beans and tofu.
- A 3-ounce serving of lean beef is about 180 calories. You would have to eat 670 calories of peanut butter (more than 7 tablespoons) to get the same amount of protein.
- A person would need to consume two to three times the calories provided in a 3-ounce serving of beef to get an equivalent amount of protein from a veggie burger.

Calorie Comparisons for 25 grams of Protein

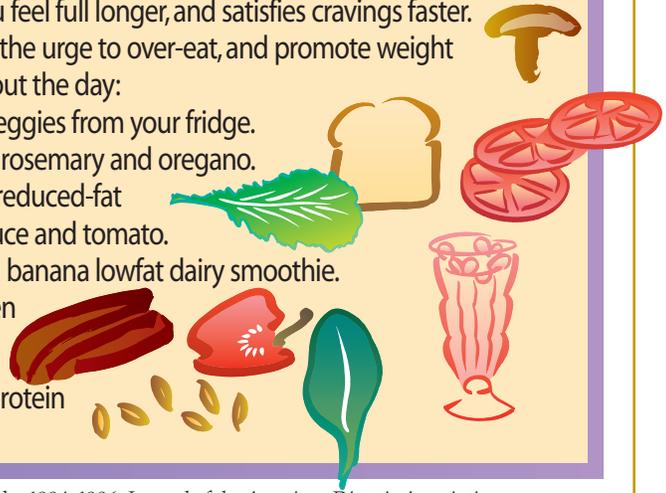


Tips to Feel Full



One of the biggest challenges to maintain a healthful weight is to avoid overeating when hunger creeps in. When your stomach is growling and hunger takes over, it's easy to consume too many calories. Eating protein at every meal can be your biggest ally when it comes to maintaining a healthful weight. The high-quality protein found in lean beef and pork, skinless poultry, lowfat dairy products and eggs, helps you feel full longer, and satisfies cravings faster. Add foods with high-quality protein to every meal or snack to curb the urge to over-eat, and promote weight management. Try these meal solutions for adding protein throughout the day:

- Rise and shine with a primavera omelet using a mix of leftover veggies from your fridge. Think fresh tomato, mushrooms, onion and fresh herbs like basil, rosemary and oregano.
- At lunch, nosh on a healthful BLT made with whole wheat toast, reduced-fat mayonnaise spread, and Canadian bacon topped with fresh lettuce and tomato.
- Keep afternoon munchies at bay by sipping on a strawberry and banana lowfat dairy smoothie.
- Stir fry sirloin strips, red bell pepper strips, chopped spinach, green onions and serve over whole-grain rice for an easy family dinner.



Visit www.BeefNutrition.org for more helpful information about protein and www.BeefitsWhatsforDinner.com for protein-rich recipes.

⁴ Cotton PA, Subar AF, Friday JE, Cook A. Dietary sources of nutrients among US adults 1994-1996. *Journal of the American Dietetic Association* 2004; 104:921-30.

