

Culinary Nutrition News: Protein: The Vegetarian Way

Provided through a partnership between ACEF Chef & Child Foundation and Clemson University, and sponsored by French's Foodservice

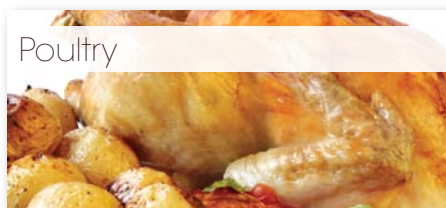
Many of us struggle to acquire the recommended servings of fruits and vegetables, which is a whopping nine servings. However, the one food group we, as meat-loving Americans, typically get plenty of is protein. The accessibility and availability of animal products may even contribute to our excessive saturated fat intake. Animal sources of protein, such as meat and dairy products, are often rich in saturated fats and cholesterol. On the other hand, there's a common misconception that vegetarians are more prone to protein deficiencies. This, however, is not necessarily the case. Vegetarians can easily satisfy and balance their protein needs by eating a variety of complementary plant proteins. Studies have shown that replacing animal protein with plant protein lowers blood cholesterol levels, even when the amount and type of fat in the diet remains the same (<http://pcrm.org>). In fact, replacing animal-based proteins with plant sources on occasion may not only offer a healthy alternative, but also set you and your customers a few steps closer to attaining the recommended servings of vegetables.

Examples of amounts of protein in food:

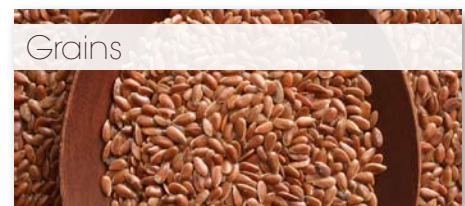
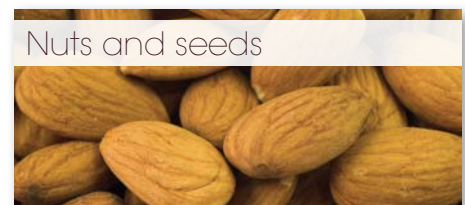
1 cup milk	=	8 grams of protein
3-oz. piece of cooked meat	=	21 grams of protein
1 cup dry beans	=	16 grams of protein
8-oz. container of yogurt	=	11 grams of protein

PROTEIN

ANIMAL SOURCES



PLANT SOURCES



We all need protein, and the recommended daily allowance of protein is 0.8 gram per kilogram of body weight. The amount of protein needed varies based upon age, health, gender and weight factors. For example, a healthy man who is 5'10" tall and weighs 75

kilograms (165 pounds) should consume 60 grams of protein daily (75 kg x 0.8 g). High levels of physical activity and illness increase these requirements to some extent. As with any diet or food group, variety is the key.

Building blocks

Proteins are part of every cell, tissue and organ in our bodies and are constantly being broken down and replaced. They are made up of amino acids, also known as building blocks. There are 20 different amino acids that can join together to make protein. While some of these amino acids can be made by our bodies, some cannot; they are known as essential amino acids. These essential amino acids can only come from our diet. We break down the protein from foods into amino acids that are later used for a variety of bodily functions, such as transporting nutrients and oxygen in the bloodstream and maintaining proper fluid and pH balance. People build muscle and other body proteins from amino acids acquired through the proteins we eat. Adults need eight essential amino acids, while children require four additional amino acids.

Perfect pairings

A **complete protein** source is one that provides all of the essential amino acids. You may also hear these sources referred to as high-quality proteins. Most animal-based proteins, such as meat, poultry, fish, milk, eggs and cheese are considered complete or high-quality proteins. An **incomplete protein** source is one that is low in one or more of the essential amino acids. These sources are often deemed as low-quality proteins, and most plant foods fall under this category. However, quinoa and soybeans are exceptions and are believed to be complete vegetable proteins.

Complementary proteins are two or more incomplete protein sources that together provide adequate amounts of all the essential amino acids. All of these amino acids can be found from plant sources. In other words, a varied diet of beans, nuts, peas, lentils, soy products, grains and vegetables can provide all of the essential amino acids. While it was once believed that certain plant foods must be eaten in unison to



Pizza is the perfect dish to make the vegetarian switch. Just replace meat with hearty vegetables for a meal lower in saturated fat and cholesterol.

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be considered a complete protein source, current research indicates that protein needs can be met by consuming a variety of plant proteins during the course of an entire day. Pairing plant proteins is of the same importance as a wine pairing and can make a dramatic difference when it comes to nutrition as well as taste. Here are some examples of complete protein pairings:

Mix it up

It is no surprise that as a meat-obsessed nation, we have found ourselves battling chronic diseases associated with our ample supply of saturated fat — and cholesterol — rich protein choices. Meats and other animal-based proteins do offer an essential array of minerals and nutrients. However, it is the idea of modest portions of meat that is lost due to our abundance of animal products. By learning unique ways to incorporate vegetarian proteins into dishes, you will not only be satisfying the needs of the increasing number of vegetarian diners, but also those who wish to capitalize on the health and environmental benefits of choosing vegetarian dishes on occasion. “Vegetarianism in America,” published by *Vegetarian Times* (vegetariantimes.com),

Protein Pairings:

Legumes with grains	Quinoa salad with edamame
Legumes with nuts/seeds	Lentil walnut burgers
Grains with dairy	Barley risotto with Parmesan cheese
Nuts/seeds with dairy	Feta/walnut pâté
Legumes with dairy	Black bean and cheese burritos
Dairy with nuts/seeds and legumes	Green bean salad with yogurt dressing and toasted walnuts

shows that 3.2 percent of U.S. adults, or 7.3 million people, follow a vegetarian-based diet. Approximately 0.5 percent, or 1 million, of those are vegans who consume no animal products at all. In addition, 10 percent of U.S. adults, or 22.8 million people, say they largely follow a vegetarian-inclined diet. MyPyramid.gov offers up the following valuable tips for preparing vegetarian meals:



Replace meaty pasta dishes with vegetables and marinara for a vegetarian-friendly meal.



Tofu adds a boost of protein without adding saturated fat or cholesterol, and is a good meat substitute. Here, tofu is served with chickpeas and spinach.

BUILD MEALS around protein sources that are naturally low in fat, such as beans and lentils. Don't overload meals with high-fat cheeses to replace meat.

CALCIUM-FORTIFIED soy-based beverages can provide calcium in amounts similar to milk. They are usually low in fat and do not contain cholesterol.

MANY FOODS that typically contain meat or poultry can be made vegetarian. This can increase vegetable intake and cut saturated fat and cholesterol intake.

CONSIDER:

- Pasta primavera or pasta with marinara or pesto sauce
- Veggie pizza
- Vegetable lasagna
- Tofu/vegetable stir fry
- Vegetable lo mein
- Vegetable kabobs
- Bean burritos or tacos

FOR BREAKFAST, try soy-based sausage patties or links.

ADD VEGETARIAN meat substitutes to soups and stews to boost protein without adding saturated fat or cholesterol. These include tempeh (cultured soybeans with a chewy texture), tofu or wheat gluten (seitan).

TRY VEGGIE or garden burgers, soy hot dogs, marinated tofu and tempeh.

MAKE BEAN BURGERS, lentil burgers or pita halves with falafel (spicy ground chickpea patties).

OFFER SOY OPTIONS (texturized vegetable protein) as a substitute for meat, and soy cheese as a substitute for regular cheese.

SUBSTITUTE meatless sauces, omitting meat from stir-fries and adding vegetables or pasta in place of meat.

Dr. Margaret D. Condrasky, RD, CCE, is an associate professor of Food Science and Human Nutrition at Clemson University. She leads the CU CHEFS® program for improving culinary nutrition skills.

Marie Hegler is a graduate of the Food Science and Human Nutrition department with a culinary science emphasis at Clemson University, which operates the CU CHEFS® program for improving culinary nutrition skills.

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KEY TERMS

AMINO ACIDS:

Building blocks of every cell

ESSENTIAL AMINO ACIDS:

Amino acids that cannot be made by body; only come from food intake

COMPLETE PROTEIN SOURCE:

One that provides all of the essential amino acids; also referred to as high-quality proteins.

INCOMPLETE PROTEIN SOURCE:

One that is low in one or more of the essential amino acids; also known as low-quality proteins.

COMPLEMENTARY PROTEINS:

Two or more incomplete protein sources that together provide adequate amounts of all the essential amino acids.

About the American Culinary Federation and the Chef & Child Foundation



The American Culinary Federation, Inc., established in 1929, is the premier professional organization for culinarians in North America. With more than 20,000 members in 225 chapters nationwide, ACF is the culinary leader in offering educational resources, training, apprenticeship and accreditation. In addition, ACF operates the most comprehensive certification program for chefs in the United States. ACF is home to ACF Culinary Team USA, the official representative for the United States in major international culinary competitions, and to the Chef & Child Foundation, founded in 1989 to promote proper nutrition in children and to combat childhood obesity. For more information, visit www.acfchefs.org.

About Clemson University



CU CHEFS® (Clemson University's Cooking and Healthy Eating Food Specialists) instructional program, led by Dr. Margaret Condcrasky, associate professor in Food Science and Human Nutrition, is a registered trademark of Clemson University designed to promote changes in menu planning, food purchasing, food preparation and food consumption behaviors with a goal of fostering good health through healthy nutrition. 'Culinary nutrition' is the application of nutrition principles combined with food science knowledge displayed through a mastery of culinary skills. The results are healthy eating behaviors grounded in culinary confidence and nutrition alertness. CU CHEFS® promotes an awareness of the latest trends in foods and nutrition through the demonstration of proficient culinary skills to produce flavorful, health-inspired menus for schools, churches and restaurants. Clemson University, located in Clemson, S.C., is ranked 22 among the nation's top public institutions. Since 2001, Clemson has doubled external research funding, raised the academic profile of the student body, increased retention and graduation rates, launched high-profile economic development and earned national accolades, including being named *Time's* Public College of the Year.

About French's Foodservice



French's Foodservice is proud to sponsor this series of nutritional articles authored by Clemson University for the American Culinary Federation's Chef & Child Foundation. At French's Foodservice, we believe that "you are

what you serve," and have built our reputation by providing the highest quality ingredients to meet the ever-changing needs of the foodservice industry. As chefs, restaurateurs, educators and nutritionists, you positively impact the health of our nation by advocating the positive impact of healthy eating, especially among children. We are proud to support this worthy cause.

Over the last 100 years, French's has become one of the most recognized and respected brands in America. Today, the French's Foodservice family of brands delivers the highest quality, most flavorful products possible. For the brands your patrons know and love and the incredible flavors that enhance everything from soups and salads to sandwiches and entrées, entrust your patrons to the flavors of French's.



A varied diet of beans, nuts, peas, lentils, soy products, grains and vegetables can provide all of the essential amino acids, which only come from the food you eat.