

Nutrition Tip of the Week: Protein



Hello CSUSM Athletes!

This week we are talking about protein. But, what exactly is protein? The basic structure of protein is made from tiny organic compounds called amino acids. They are known as the building blocks of life because they combine together into a chain to form the structure of protein molecules. When ingested and digested, protein is broken back down into amino acids and our body uses each of the 22 different kinds of amino acids for energy and a variety of other essential functions.

Amino acids are classified into three groups: essential, non-essential and conditional. Your body creates 13 of the 22 amino acids on its own. These are **non-essential** amino acids. The other 9 **essential** amino acids must come from our food. They do not need to be eaten all at once, but their consumption can be balanced throughout the day. **Conditional** amino acids are usually not essential, except in times of increased stress and illness. When our diet supplies all essential amino acids and our bodies have the building blocks they need to create protein structures, our bodily functions can occur in a regular and healthy manner.

The body uses protein for a variety of purposes. Protein helps maintain healthy skin, hair, and nails, while also supporting immune function, mood, cognitive function, and helps the body grow, develop and repair cells and tissues. Have you ever been sore after a workout? That's the result of injured muscle tissue. Our bodies need protein to help repair and rebuild the injured muscle so it can grow and perform well the next time you workout. Eating healthy protein sources also helps you maintain a healthy weight by curbing appetite because it makes you feel fuller for longer and fuels you with extra energy.

For our vegan and vegetarian athletes, it is important to know the difference between complete and incomplete proteins. A **complete protein** has the non-essential amino acids plus the 9 essential amino acids. **Incomplete proteins** on the other hand are low or are lacking in one or more of the 9 essential amino acids. However, mixing two incomplete proteins together *complement* each other to create a complete protein source. As a general rule, grains, cereals, nuts or seeds pair with beans, peas, lentils, peanuts or peanut butter. Incomplete proteins found in plant sources can also be combined with small amounts of animal sources to make a complete protein. Check out the infographics below to help you navigate which protein sources are complete or incomplete and how to make perfectly paired protein combinations.

Plant Based Incomplete Protein	Plant based Complete Protein	Complete Proteins (Animal Sources)
<ul style="list-style-type: none"> • Most whole grains • Beans & other legumes • Lentils • Nuts • Seeds • Peanut butter • Vegetables 	<ul style="list-style-type: none"> • Soy (tofu & edamame) • Tempeh • Quinoa • Buckwheat • Amaranth • Hemp seed • Chia seed • Spirulina • Blue-green algae 	<ul style="list-style-type: none"> • Eggs • Dairy (cheese, milk & yogurt) • Fish • Beef • Chicken • Pork

Complete Vs. Incomplete Proteins

- Dietary Protein is required for the body as there are 9 essential amino acids the body cannot create and must obtain from ones diet. **Complete Proteins** contain all 9 of these essential amino acids versus **Incomplete Proteins** which do not. **Complementary Proteins** are combinations of two or more incomplete proteins that supply all 9 essential amino acids.

Complete Proteins:

- Animal Based:

- ✓ Meat
- ✓ Poultry
- ✓ Dairy
- ✓ Eggs
- ✓ Fish



❖ Soy is the only known plant based complete protein



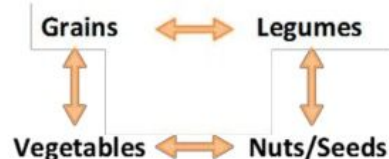
Incomplete Proteins:

- Plant Based:

- ✓ Vegetables
- ✓ Grains
- ✓ Legumes/Beans
- ✓ Nuts/Seeds

Complementary Proteins:

- Grains + Legumes/Vegetables
- Nuts/Seeds + Vegetables/Legumes



Part 1

Protein Pairing

The HOW-TO guide on creating your own protein power couple

AMINO ACIDS are the **BUILDING BLOCKS** of **PROTEIN**



20



Types of Amino Acids

9 **INDISPENSABLE**
"Essential"
Must be obtained from food

11 **DISPENSABLE**
"Non-essential"
Made in the body



COMPLETE *and ready to eat!*

Contains all the essential amino acids in just the right amount



Meat



Fish



Dairy



Eggs



Soy



INCOMPLETE *single and ready to mingle!*

Lower in a few essential amino acids



Nuts & Seeds



Legumes (Beans)



Grains



Vegetables



BECOME THE PROTEIN Matchmaker

Create the Perfect Match

You can easily create your own power couple of complementary proteins by pairing two incomplete proteins. A set of complementary proteins will provide adequate amounts of all the essential amino acids.

Is Matchmaking Essential?

Nope! Consuming a variety of protein foods throughout the day will provide the essential amino acids your body needs.



SAMPLE PROTEIN POWER COUPLES

Part 1



COMPLETE *and ready to eat!*

No need to pair! Yogurt already contains all of the essential amino acids in the right amounts. Toss in some fruit for added flavor.



Yogurt



Fruit



INCOMPLETE *single and ready to mingle!*

Beans and rice complete each other! Both foods are lacking an amino acid, but together, they make the perfect pair. To make your own taco bowl, add lean meat or soy crumbles and a dollop of greek yogurt for an easy, protein-packed meal.



Beans



Rice



HUNGRY FOR MORE?

Stay tuned for *Part 2* of the protein power couples.

For more information about protein, visit

foodinsight.org

Part 2

Protein Pairing

Still starving for a protein boost? Check this episode's snack ideas!



SAMPLE PROTEIN POWER COUPLES

Part 2

COMPLETE *and ready to eat!*

No need to pair! Tuna already contains all of the essential amino acids. Spread on crackers to add some crunch.



Tuna

&



Crackers

INCOMPLETE *single and ready to mingle!*

Beans and brown rice are soul foods! Both foods are missing an amino acid, but together, they make the perfect pair. Toss black or pinto beans with brown rice, onions, and bell peppers for a quick, effortless meal.



Beans

&



Rice



HUNGRY FOR MORE?

Stay tuned for *Part 3* of the protein power couples.

foodinsight.org

Part 3

Protein Pairing

Still starving for a protein boost? Check this episode's snack ideas!



SAMPLE PROTEIN POWER COUPLES

Part 3

COMPLETE *and ready to eat!*

No need to pair! Soymilk already contains all of the essential amino acids. Pour over your favorite whole grain cereal for a quick breakfast or snack.



Soymilk

&



Cereal

INCOMPLETE *single and ready to mingle!*

Hummus and whole grain crackers are the perfect pair! Both foods are missing an amino acid, but together, they make the perfect pair. Spread hummus on crackers for a creamy and crunchy snack.



Hummus

&



Whole grain cracker

foodinsight.org

Beyond Beef Taco Salad Recipe

Prep time: 15 min

Cook time: 20 min

Total time: 35 min

Ingredients:

- 1 package Beyond Beef
- ¼ teaspoon olive oil
- ¾ tablespoon Taco seasoning
- ½ cup tomatoes, diced
- ¼ cup corn, fresh frozen or canned
- ½ bell pepper of any color
- 2 ½ cups romaine lettuce or other green of choice
- Catalina dressing, as preferred
- Tortilla chips or tostadas, crunched

Optional Ingredients:

- Sliced olives
- Canned beans
- Sliced avocado
- Sour cream
- Shredded cheese

Directions:

1. Dice onion and pre-chop all other veggies.
2. Heat oil in a skillet over high heat. Add onion and saute until translucent, about 3-4 minutes. Add bell peppers and corn, saute another 3-5 minutes.
3. Add Beyond Beef. Stir, breaking up the pieces with a spatula or wooden spoon for about 7-10 minutes, until the meat is browned and moisture has evaporated. Add beans.
4. Stir taco seasoning into Beyond Beef mixture until well combined.
5. Once fully cooked, combine all remaining ingredients in a large bowl with the greens as a base. Add Beyond Beef mixture on top, add any additional ingredients. Top with Catalina dressing and crushed chips/tostadas. Enjoy!

Beyond Beef is a plant-based meat alternative that contains 20 grams of protein and is made up of ingredients such as mung bean, peas, and rice protein. The combination of plant-based proteins makes this a complete protein source. Filled with vegetables, vitamins, minerals, and fiber, this balanced meal gives you everything you need to feel satisfied and amazing. Crushed chips bring an excellent crunch to the dish and provide a serving of whole grains. Enjoy this recipe for lunches and dinners. Great meal for after practices and games. This recipe was adapted from: <https://www.wholesomeyum.com/recipes/taco-salad/>





The Cougar Pantry serves free food to all CSUSM students. Each Student may visit once per week, in addition to attending Fresh Market Mondays (every Monday in Chavez Plaza from 10am - 1pm) and Produce Truck Tuesdays (first tuesday of every month in front of Markstein Hall from 12-1 pm) for fresh produce.

Cougar Pantry is located in **USU 3100A** and the hours are as follows:

Mondays: closed for Fresh Market

Mondays; Tuesday - Thursday: 9 AM - 5 PM

Friday: 9 AM - 1 PM

Don't forget your reusable bag and student ID!

Thank you Cougars and have a wonderful week!