



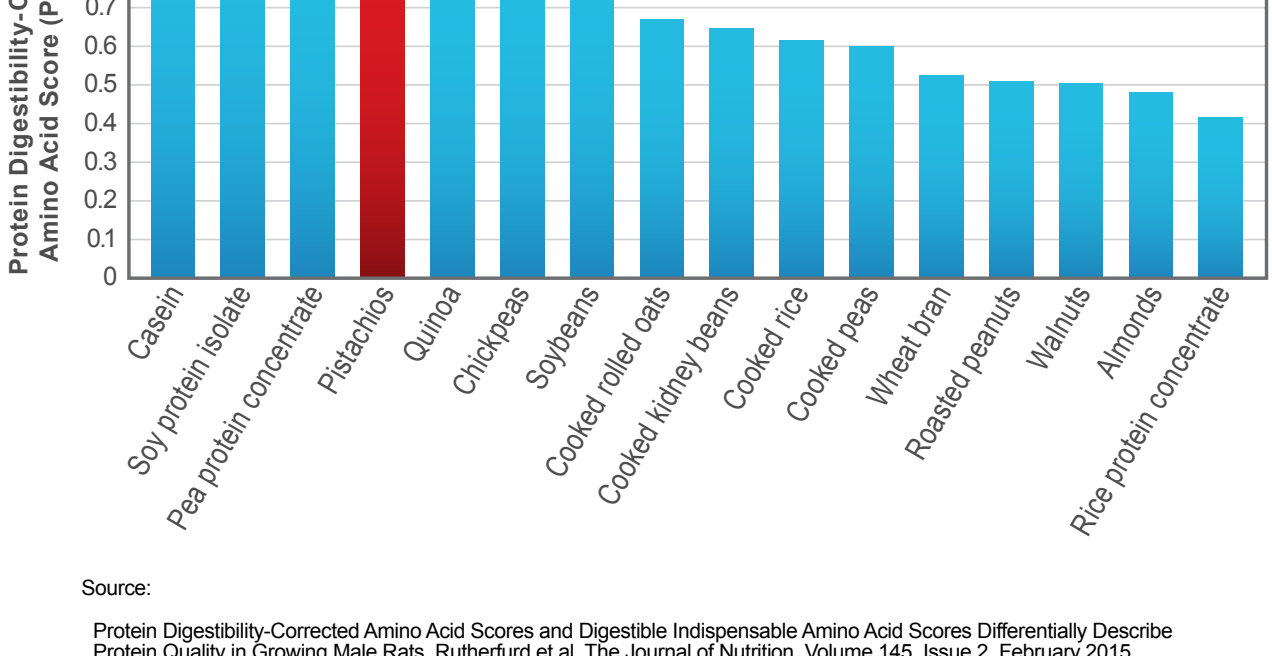
## ANALYSIS SHOWS U.S. GROWN PISTACHIOS ARE A "GOOD SOURCE" AND "COMPLETE PROTEIN" FOR THOSE OVER FIVE YEARS OF AGE<sup>1</sup>

***Pistachios join quinoa and soy as an alternative for animal proteins.***

American pistachios are a “good source” of protein, meeting 10% of the Daily Recommended Values. Roasted American pistachios are also a “complete protein” for those 5 years and older, according to the U.S. Food and Drug Administration’s definition of a “complete protein”. American pistachios have joined the ranks of the few plants proteins such as quinoa, chickpeas, and soybeans as a plant protein qualifying as a “complete protein”.

Protein quality of American pistachios was determined by a Protein Digestibility Corrected Amino Acid Score (PDCAAS) analysis which found roasted American pistachios contain the 9 essential amino acids in adequate amounts for protein synthesis for those 5 and older. The chart below shows the PDCAAS of several plant based proteins and how they compare to casein.

**Protein quality of different foods measured by PDCAAS**



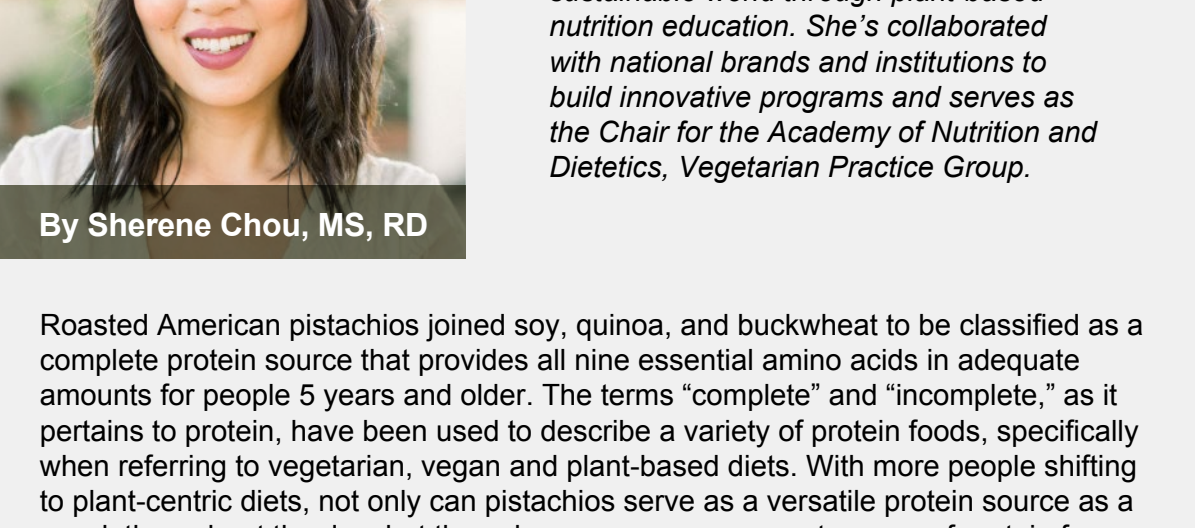
Source:

Protein Digestibility-Corrected Amino Acid Scores and Digestible Indispensable Amino Acid Scores Differentially Describe Protein Quality in Growing Male Rats. Rutherford et al, The Journal of Nutrition, Volume 145, Issue 2, February 2015, Pages 372-379.

Boye, Joyce & Wijesinha-Bettoni, Ramani & Burlingame, Barbara. (2012). Protein quality evaluation twenty years after the introduction of the protein digestibility corrected amino acid score method. The British journal of nutrition. 108. S183-S211. 10.1017/S0007114512002309.

Owusu-Apenten, R.K., Food Protein Analysis: Quantitative Effects On Processing, New York, Marcel Dekker, Inc., 2002.

<sup>1</sup> <https://americanpistachios.org/complete>



*Sherene is an award-winning dietitian and chef focused on building a more sustainable world through plant-based nutrition education. She’s collaborated with national brands and institutions to build innovative programs and serves as the Chair for the Academy of Nutrition and Dietetics, Vegetarian Practice Group.*

**By Sherene Chou, MS, RD**

Roasted American pistachios joined soy, quinoa, and buckwheat to be classified as a complete protein source that provides all nine essential amino acids in adequate amounts for people 5 years and older. The terms “complete” and “incomplete,” as it pertains to protein, have been used to describe a variety of protein foods, specifically when referring to vegetarian, vegan and plant-based diets. With more people shifting to plant-centric diets, not only can pistachios serve as a versatile protein source as a snack throughout the day, but they also can serve as a great source of protein for meals. According to the Food Industry Association’s 2019 U.S. Grocery Shopper Trends report, they found that at least one member of the household (33 percent) are following a plant-centric diet (vegetarian, vegan, flexitarian).<sup>1</sup>

**Here are the top three questions dietitians hear from consumers about plant protein, and the scientific answers to back it up.**

**Will I be able to get enough protein on a plant-based diet?**



<sup>1</sup><https://www.fmi.org/blog/view/fmi-blog/2019/10/22/how-the-rise-of-flexitarians-is-powering-plant-based-sales>



Scores of health studies document the power of pistachios, the tiny nut that packs an incredible punch of energy and nutrition, and addresses some of today’s most pressing and perplexing health concerns and, as with all American agriculture, American pistachio growers have food safety on top of mind throughout the process of growing, harvesting and processing their pistachios. All growers adhere to the Food Safety Modernization Act (FSMA), standards for growing, harvesting, packing, and holding of produce for human consumption. FSMA standards are designed to minimize the number of foodborne illnesses. Key elements of FSMA require growers to test agricultural water and soil amendments for contamination; train employees, who come into contact with pistachios, on health and hygiene, and how to properly clean and sanitize food contact surfaces and equipment. Sound familiar? These steps are very similar to a HACCP (Hazard Analysis of Critical Control Points) program, and are other steps to further prevent the chances of a foodborne illness. Pistachios are an excellent go-to food to keep on hand while staying at home, not only for the numerous health benefits and safety of the product, but also because they’re so delicious! Pistachios can maintain their safety and freshness in the pantry for several months and even longer if refrigerated or frozen, making it a great addition to your stay at home inventory.

## AMERICAN PISTACHIO SPRING RECIPES



**PISTACHIO BERRY GOAT CHEESE SALAD**



**SEA BASS WITH THAI CURRY & PISTACHIOS**



**CHICKEN GALLANTINE WITH PISTACHIOS, CRANBERRY & CHANTERELLES**



**LOWCOUNTRY SHRIMP TOSTADA WITH MANGO PISTACHIO SALSA**



**BLONDIES WITH SALTED PISTACHIOS & LEMON**



## SPRING HEALTH OBSERVANCES

**WORLD IMMUNIZATION WEEK, APRIL 24-30**

The World Health Organization has released new guidance to help countries protect critical immunization services during the COVID-19 pandemic, so that ground is not lost in the fight against vaccine-preventable diseases.

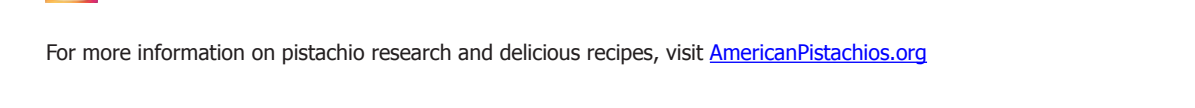


**National Women’s Health Week** May 10-16

**World No Tobacco Day** May 31

**Men’s Health Month** June

**World Blood Donor Day** June 14



Tell your story and receive a pound of pistachios! Share your story on how pistachios have improved yours or someone else’s health and if we use your story in *Nutrition Unshelled*, we’ll send you a pound of pistachios! Email your story and contact information to [info@americanpistachios.org](mailto:info@americanpistachios.org).



**American Pistachio Growers,**  
a non-profit voluntary agricultural trade association representing  
800 pistachio farmers in California, Arizona and New Mexico.

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