

Q&A Almonds

with
SWATI KALGAONKAR

Bases covered: Understanding—and optimizing—almond protein quality

To say that protein is enjoying a “moment” is a bit of an understatement. And Swati Kalgaonkar, Ph.D., is pleased to see it.

“For a long while there was a big tug-of-war between carbs and fats,” recalls Kalgaonkar, Associate Director, Nutrition Research at the Almond Board of California (ABC). “They were stealing the stage and protein was getting neglected a bit.” But now that protein’s the “new nutritional superhero,” as she calls it, it’s getting its turn in the spotlight.

Even better, consumers and the health community alike are beginning better to appreciate protein’s role not just in the growing years but, perhaps more importantly, in the aging years, as well. And product developers are learning that by formulating with a variety of protein sources—including California almonds—they can improve consumers’ chances of keeping those protein bases covered at any age.

We sat down with Kalgaonkar to learn more about what makes protein important, and how California almonds, with 6 grams of protein in a one-ounce serving, contribute to a healthful protein package.

Q Tell us about the latest science on the importance of lifelong protein optimization.

KALGAONKAR | Some studies^{1 2 3} have questioned whether aging populations may require a higher daily intake of protein than previously recommended. Thanks to that research, there’s a lot more attention being paid to protein to make sure that people are getting enough at all life stages for optimum growth, muscle health, active lifestyles and healthy aging.

Q It seems that plant proteins, in particular, are attracting attention. What makes them special?

KALGAONKAR | For one, plant protein comes without the some of the high fat and cholesterol that you’d otherwise have to worry about when thinking about some animal-based protein sources. And if you look at it from an environmental perspective, plant-based protein, like the protein we get from almonds, is kinder to the planet.

Q What is the PDCAAS and why is it a notable measure of protein quality?

KALGAONKAR | PDCAAS refers to the protein-digestibility corrected amino acid score, and it’s a measure of protein quality that accounts for both a protein’s amino acid profile and the digestibility and absorption of those amino acids. You have to consider how well the body digests, absorbs and uses those amino acids, too. So when a protein-quality measure “corrects” for protein digestibility—as the PDCAAS does—it gives a fuller picture of the food’s true protein quality.

Q What is the main characteristic a formulator should consider when choosing which protein sources to work with?

KALGAONKAR | While protein quality is an important aspect to keep in mind, focusing on it too much can encourage a kind of tunnel vision. It's important to take the big picture into perspective, too, and to understand that, in reality, people consume diets, not just isolated protein sources. I'm more in favor of an approach that doesn't insist on a perfect protein quality measure of 1, or 100 percent. I'd rather see people consume a combination of different proteins from different sources that complement each other.

Q What do we mean by protein complementarity?

KALGAONKAR | It goes back to a protein's amino acid profile, and especially to its content of essential amino acids—the amino acids that the body can't make on its own but must take in through diet. Some protein sources are rich in some of these amino acids and poor in others, while other proteins have profiles that are the exact opposite. We call these “complementary” proteins, because their amino acid profiles complement each other.

Q Where do almonds fit into the picture?

KALGAONKAR | A perfect example is combining almonds with legumes. Almonds are high in amino acids that legumes and pulses lack—and vice versa. That makes them a perfect complementary protein combination. By consuming almonds along with a variety of other healthy protein sources, it's easy to supply the requisite protein quantity and quality the body needs.

Q Give us some examples of how we can do this.

KALGAONKAR | The Almond Board of California worked with research chefs and product designers to develop some almond-pulse concepts that optimize protein—and are really delicious, too.

One is a roasted sweet-and-savory trail-mix cluster made with sliced almonds, almond butter, pea protein and white bean flakes. The flavor options include snickerdoodle, spiced chai, cinnamon-spiced orange and Cajun with dark chocolate, and the clusters are great snacks on their own, as well as inclusions in yogurt parfaits, oatmeal, ice cream and even ready-to-eat cereals.

Another innovative concept is a flexitarian “meat” that can replace 30 to 50 percent of the animal protein in meatballs, patties and sausages. The almonds here can be ground or sliced, depending on the consistency you're looking for, and the pulse ingredients are black and white kidney bean puree, with some cooked pieces left in for texture.

Q So do you have any final thoughts on why almonds can be a formulator's “secret weapon” for optimizing protein healthfully?

KALGAONKAR | Yes. It's important to remember that a protein source is never just a protein source. It's a complete nutritional package. And you have to look at that complete package to see what else it has to offer. So, if a protein source comes with saturated fat and cholesterol along with a “perfect” PDCAAS of 1, it may be a “perfect” source of protein, but it's not a perfect food. By contrast, almonds—with their fiber, vitamin E, healthy monounsaturated fatty acids and complementary plant-based protein—might be the better option.

¹ Lonnie, M., Hooker, E., Brunstrom, J., Corfe, B., Green, M., Watson, A., . . . Johnstone, A. (2018). [Protein for Life: Review of Optimal Protein Intake, Sustainable Dietary Sources and the Effect on Appetite in Ageing Adults](#). *Nutrients*,10(3), 360. doi:10.3390/nu10030360

² Volpi E, Campbell WW, Dwyer JT, Johnson MA, Jensen GL, Morley JE, Wolfe RR. Is the optimal level of protein intake for older adults greater than the recommended dietary allowance? *J Gerontol A Biol Sci Med Sci*. 2013;68: 677–681.

³ Bauer J, Biolo G, Cederholm T, Cesari M, Cruz-Jentoft AJ, Morley JE, Phillips S, Sieber C, Stehle P, Teta D, Visvanathan R, Volpi E, Boirie Y. Evidence-based recommendations for optimal dietary protein intake in older people: a position paper from the PROT-AGE Study Group. *J Am Med Dir Assoc*. 2013;14: 542–559.