



## GLOBAL DAIRY PLATFORM

### Dietary Protein: Underappreciated or Overconsumed?

October 2023

No nutritionist or clinician doubts the importance of dietary protein for optimal health, to promote tissue growth and repair, and in the production of compounds like hormones and enzymes that help the body to function properly. That said, much debate still occurs when folks with a knowledge of nutrition and its implications for health and disease discuss what constitutes an adequate amount of protein to consume daily, or the best sources of protein to consume on an ongoing basis.

#### ***Controversies Still Exist***

With respect to the quantity of protein humans need to consume daily, the Recommended Dietary Allowance (RDA) for protein has long been 0.8 gms. per kg body weight/day in most countries, which roughly equates to 56 gms. of protein (224 kcals) per day for a 70 kg (150 lb.) person. And while this value has stood up to much scientific scrutiny over the years, there are experts who will tell you there are many exceptions to the rule: pregnant women, growing children, physically active people, older adults, bed ridden people, folks who don't consume enough calories or who consume a low nutrient dense diet, all may require higher than RDA levels of protein. So, in the eyes of many, the issue of adequate protein intake versus optimal protein intake for the greatest amount of people is not yet a settled question.

The issue of which protein sources are best to consume has provoked even greater debate in recent years, particularly in light of the dietary changes being promulgated by experts as we seek to promote and consume a more sustainable diet that nourishes both people and the planet. Conventional dietary dogma among those promoting sustainable diets is that we need to consume far more plant foods than we currently do and far less animal-sourced foods, even though animal proteins in general are unequivocally better sources of high-quality protein than most plants. Many argue that we can meet all our protein needs by consuming more plants and fewer animals, with some going as far as saying that protein quality "doesn't really matter" because "we all consume enough protein anyway."

#### ***Sobering Statistics***

This, of course, is a decidedly Western view of nutrition (although it should be pointed out that many demographic groups in Western societies don't consume adequate amounts of protein either). Some sobering statistics to help drive home this point: [over one billion people globally](#) (~13% of global population) do not consume enough protein daily. Some recent reports indicate that almost 80% of the people in India fail to meet their daily protein needs, and protein energy malnutrition in Indian children, which can lead to lifelong physical and mental health issues, has led to a stunting rate of 48% in children under five years, and wasting in 20% of children, the highest in the world ([Link Here](#)). And with respect to protein source, it's worth remembering that in Southeast Asia and Sub-Saharan Africa, regions with some of the highest rates of protein malnutrition in the world, access to animal-sourced foods is far lower than in other parts of the world. In these regions, daily per capita intake of animal-sourced foods is less than one serving, compared with an intake of about 5 servings per day in Central and Eastern Europe, or about 3.5 servings/day in most high-income countries overall ([Link Here](#)).



### **Recent Symposium Highlights Issues**

A recent symposium titled [Dietary Protein for Human Health](#), which took place in the Netherlands earlier this month, drew over 300 delegates from all over the world to hear 60 protein experts discuss various issues regarding protein and amino acid requirements, the best methods for assessing protein quality, and the future of dietary proteins in sustainable global diets, among several other things. The symposium was jointly organized by the Food and Agriculture Organization of the United Nations (FAO), the International Atomic Energy Agency (IAEA), Wageningen University in the Netherlands, The Riddet institute in New Zealand, and The Global Dairy Platform.

While numerous perspectives were presented, and consensus on several issues was not reached largely due to time constraints, a few key issues were discussed and generally agreed upon. Among them were:

- ***The Amino Acid Composition of Dietary Proteins is Important, and Often Overlooked***

Several speakers made the point that experts spend a lot of time discussing and debating dietary protein intake, and not enough time focusing on the key constituents of proteins— their essential amino acid (EAA) composition. Speakers discussed the need for Recommended Daily Intakes for the nine EAAs that exist in most proteins as a way of underscoring their importance in the diet. And while this might sound like an academic exercise to some, the issue has real implications for the types of foods we recommend and consume. For example, one speaker indicated that one ounce of beef contains 20% of the essential amino acids required in the daily diet, while a quarter cup of cooked beans (often considered a viable replacement for beef) contains only 1.4% of the required EAAs. The speaker went on to make the point that protein quality, as indicated by the protein source as well as its amino acid composition, matters a lot in health and disease.

- ***How We Measure Protein Quality Matters***

In parts of the world where people have virtually unfettered access to protein-containing foods, the protein quality argument sometimes loses steam. After all, if one is consuming two or three times the RDA for protein, they can likely meet their daily amino acid needs by accident, in spite of the quality of the proteins they consume. But, as pointed out previously, many people globally don't have that luxury and for them consuming high-quality proteins can be a matter of life or death. With this in mind, several speakers highlighted the need for methods that accurately measure protein quality, which take into account the most biologically valid ways of assessing the amino acid composition of protein foods (and, therefore, their quality). A number of researchers at the symposium presented data utilizing the newly developed [DIAAS](#) (Digestible Indispensable Amino Acid Score) method as the preferable way of assessing protein quality, and they expressed their belief that the method will be largely adopted and utilized in the future. Others indicated that at some point we may be able to improve on the current DIAAS method by creating in vitro models or other streamlined techniques, but all were in general agreement that DIAAS should be the protein quality method of choice moving forward.

- ***Discussions on Protein Needs Should be About Animal and Plant, not Animal or Plant***

On the final day of the symposium, a roundtable discussion that included speakers from several developing countries about the future of protein in sustainable global diets was held. One health expert from Malawi, a country with rampant malnutrition among its population, made the astute observation that any conversation about protein needs, particularly in the developing world, should not exclude any food source. He indicated that healthy sustainable diets need to include both animal and plant sources, not one or the



other (it should be noted that earlier in the symposium a clinical researcher presented data he had collected in Malawi which indicated that whey protein was superior to soy in promoting recovery from malnutrition in Malawian children) ([Link Here](#)). The health expert's comment seemed to provide a fitting conclusion to the symposium, and a point we should all keep in mind when we discuss global protein needs. Despite compositional differences among protein sources, in a world seeking ways to efficiently produce, deliver, and provide access to adequate protein for all, no source should be excluded or undervalued. Overconsumed in some regions, and sorely required in others, dietary protein is an indispensable part of the human diet, a nutrient no person can live without indefinitely. This issue needs to be underscored in any discussion regarding the implications of protein in sustainable global diets.