



GLOBAL DAIRY PLATFORM

For Immediate Release

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NEW METHOD TO MEASURE PROTEIN QUALITY PROVIDES IMPORTANT INFORMATION ON HOW FOODS CONTRIBUTE TO A SUSTAINABLE DIET

New method confirms the high bioavailability of dairy proteins and their ability to complement other proteins by being a rich source of dietary essential amino acids.

Rosemont, IL (February 27, 2013) – A groundbreaking report by an [Expert Consultation of the Food and Agriculture Organization of United Nations \(FAO\)](#) has recommended a new, advanced method for assessing the quality of dietary proteins.

The report, “[Dietary protein quality evaluation in human nutrition](#)”, recommends that the Digestible Indispensable Amino Acid Score (DIAAS) replace the Protein Digestibility Corrected Amino Acid Score (PDCAAS) as the preferred method of measuring protein quality. The report recommends that more data be developed to support full implementation, but in the interim, protein quality should be calculated using DIAAS values derived from fecal crude protein digestibility data. Under the current PDCAAS method, values are “truncated” to a maximum score of 1.00, even if scores derived are higher.

Protein is vital to support the health and well-being of human populations. However, not all proteins are alike as they vary according to their origin (animal, vegetable), their individual amino acid composition and their level of amino acid bioactivity. “High quality proteins” are those that are readily digestible and contain the dietary essential amino acids in quantities that correspond to human requirements.

“Over the next 40 years, 3 billion people will be added to today’s global population of 6.6 billion. Creating a sustainable diet to meet their nutritive needs is an extraordinary challenge that we won’t be able to meet unless we have accurate information to evaluate a food’s profile and its ability to deliver nutrition,” said Professor Paul Moughan, co-director of the [Riddet Institute](#), who chaired the FAO Expert Consultation. “The recommendation of the DIAAS method is a dramatic change that will finally provide an accurate measure of the amounts of amino acids absorbed by the body and an individual protein source’s contribution to a human’s amino acid and nitrogen requirements. This will be an important piece of information for decision makers assessing which foods should be part of a sustainable diet for our growing global population.”

Using the DIAAS method, researchers are now able to differentiate protein sources by their ability to supply amino acids for use by the body. For example, the DIAAS method was able to demonstrate the higher bioavailability of dairy proteins when compared to plant-based protein sources. Data in the FAO report showed whole milk powder to have a DIAAS score of 1.22, far superior to the DIAAS score of 0.64

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for peas and 0.40 for wheat. When compared to the highest refined soy isolate, dairy protein DIAAS scores were 10% to 30% higher¹.

DIAAS determines amino acid digestibility, at the end of the small intestine, providing a more accurate measure of the amounts of amino acids absorbed by the body and the protein's contribution to human amino acid and nitrogen requirements. PDCAAS is based on an estimate of crude protein digestibility determined over the total digestive tract, and values stated using this method generally overestimate the amount of amino acids absorbed. Some food products may claim high protein content, but since the small intestine does not absorb all amino acids the same, they are not providing the same contribution to a human's nutritional requirements.

Since its adoption by FAO/WHO in 1991, the PDCAAS method had been widely accepted but also criticized for a number of reasons. In addition to the issues of truncation and overestimation, PDCAAS did not adequately adjust for foods susceptible to damage from processing and anti-nutritionals, which can make some amino acids unavailable for absorption.

“We support the recommendations of the FAO Expert Consultation, including the immediate use of DIAAS values calculated from fecal crude protein digestibility data,” said Donald Moore, Executive Director, [Global Dairy Platform](#). “Immediately removing ‘truncation’ will provide health professionals, regulators and policy makers a more accurate representation of which foods provide the highest quality of nutrition. We urge industry to support the additional research required to enable implementation of the more accurate DIAAS method.”

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About Global Dairy Platform

Established in 2006, GLOBAL DAIRY PLATFORM's mission is to align and support the dairy industry to promote sustainable dairy nutrition. Visit www.globaldairyplatform.com for more information.

¹ Calculated from data included in the Sub-committee report “[The assessment of amino acid digestibility in foods for humans and including a collation of published ileal amino acid digestibility data for human foods](#)” based on rat ileal digestibility.