

Influence of Lipid Extraction and Tegument Removal from Different Protein Sources on *in vitro* Digestibility

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Proteins are the most abundant macromolecules in living cells. Their primary role in the diet is to supply the body with amino acids in adequate quantities. Determination of protein digestibility of foods is an important factor to estimate their quality and the *in vitro* methodology is a quick and easy way to do it. This study aimed to determine the influence of lipids and grain tegument on the *in vitro* digestibility of protein from animal and plant origin. We used the following protein sources: oat, beef, chicken, fish and pork meats, red beans, milk powder, textured soy protein, quinoa and five soybean varieties. Proteins of animal origin had higher values than those of plant origin, except for textured soy protein that showed higher digestibility because of the thermal treatment. In this study, there was no statistic difference between lipid content and protein digestibility. There is, therefore, no need for sample defatting before examining the *in vitro* digestibility, which facilitates even more the use of these methods for foods with high lipid levels in food industries. Fiber was mainly found in grain teguments and interfered with the *in vitro* digestibility, making it necessary to write another equation, correlating *in vivo* and *in vitro* digestibility of a larger number of fiber-rich samples, exclusively for fibrous food, without having to remove the fiber-rich fraction.

Keywords: protein digestibility, protein quality, lipids

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