Protein Quality of Biofortificated Beans (*Phaseolus vulgaris, L*)


¹Dep. de Bioquímica; ²Dep. de Tecnologia de Alimentos, UFSJD; ³Dep. de Nutrição; ⁴Dep. de Química, UFV, M.G, Brazil

The process of biofortification of beans using plant breeding is recent and there are a few studies of these cultivars. Thus, the objective of this study was to evaluate the *in vivo* digestibility, the amino acid chemical score (EQ) and chemical score corrected amino acid digestibility of protein (PDCAAS), of two the type of bean cultivars, BRS Pontal and BRS Agreste. Wistar Rats fed with diet supplemented with bean flour had a protein quality index (NPR, PER and digestibility) lower than those who received the standard diet with casein. The BRS Pontal bean presented higher digestibility compared to the BRS Agreste (0.64 to 0.42). The result of the chemical score corrected by BRS Pontal bean protein digestibility (PDCAAS) was 44.6%, with cysteine and methionine as limiting amino acid. The bean BRS Agreste showed no limiting amino acid in EQ, important difference of this variety. However, it is known that, to be considered of high biological value protein, it is necessary adequate amounts of essential amino acids and good protein digestibility. In this case, it is concluded that the BRS Agreste bean presented better protein quality than the BRS Pontal bean.

Key words: Digestibility, Protein, Beans, PDCAAS

Apoio: EMBRAPA, CNPq, FAPEMIG and CAPES