THE EFFECT OF THERMAL TREATMENT ON THE QUINOA TOTAL AND ISOLATED FRACTIONS PROTEIN QUALITY

Maria Julia de Miguel Amistá; Olga Luisa Tavano. University of Triângulo Mineiro - UFTM, Rua Getulio Guaritá 159, 38025-440 Uberaba, Minas Gerais, Brazil.

Due its versatility and indications with regards to its high nutritive value, quinoa has attracted growing interest by food and nutrition researchers, as well as from consumers who seek healthier or alternative food products. These foods are of particular relevance for people with celiac disease. In this study changes in nutritional characteristics of quinoa seed proteins were evaluated after thermal treatment, particularly assessed the protein digestibility of samples. The quinoa seeds showed protein content of 13.77%; the globulin fraction was the major constituent of quinoa protein (41.3%), and albumins (26.96%) and glutelins (26.9%). Cooking significantly improved the in vitro protein digestibility of quinoa seeds (65.43 % to 74.23 %) and the globulin fraction de 75.04% para 108.84%. However, the thermal treatment did not affect in albumin and glutelin digestibilities. These observations suggest that trypsin inhibitors content (usually presents in albumin fraction) and the structural resistance of plant proteins to digestive enzymes, often imputed to globulins, would be not enough to explain the lower protein digestibility of quinoa seeds, compared to casein.