REDUCTION OF BITTERNESS OF HYDROLYZED SOYBEAN MEAL BY ADSORPTION IN ACTIVATED CHARCOAL

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The soybean meal is an important source of protein, which is used for animal feed manufacturing. Given the broad availability of this source, there is the modification process for the production of enzymatic hydrolyzate of soybean meal to replace traditional chemical processes. A negative side effect of protein hydrolysis is the release of peptides with bitter taste than the native protein, which is considered the major obstacle to the widespread application of these hydrolyzates in diets. Thus, this study aimed to apply the process of adsorption on activated charcoal in order to reduce the bitter taste of oligopeptides presents on enzymatic hydrolyzate of soybean meal. The hydrolysis reaction of soybean meal was performed using the Alcalase ® 2.4L, 60 °C and 100 rpm and the hydrolyzate was percolated through a column containing activated carbon to reduce the bitterness. The formulations of soymilk prepared were sensory analyzed. The results of physical-chemical analysis showed that the charcoal removed about 0.4% protein hydrolyzate. By the results obtained in sensory analysis, it can say that there is significant difference between the formulations, and the marks awarded in the hedonic scale test indicated good acceptability of both formulations. The formulation containing the hydrolyzate treated with activated charcoal showed a greater acceptance of the panelists, with average grade 7.42. The results confirm the potential of activated charcoal to reduce the residual bitterness resulting from the enzymatic hydrolysis of soybean meal, allowing the use of this hydrolyzate in the production of food for human consumption.