

INFLUENCE OF SOAKING, BOILING AND STEAMING ON CONTENT AND ANTIOXIDANT ACTIVITY OF BIOACTIVE COMPOUNDS IN RED KIDNEY BEAN

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Abstract

The effect of soaking, boiling and steaming on content and antioxidant activities and phenolic compounds of red kidney bean was investigated. Red kidney bean was soaked in water at room temperature for different times, including 2, 12 and 24 h, subsequently the soaked beans were cooked by two methods namely boiling and steaming. The results found that the total phenolic content (TPC), total flavonoid content (TFC) and antioxidant activities as measured by FRAP and DPPH assays of soaked and processed beans were significantly ($p<0.05$) lower than that of raw bean. The TPC, TFC, DPPH and FRAP values of 2h soaked were the highest, followed by 12 and 24 h, respectively. In addition, this research revealed that boiling method resulted in the highest loss of these values than that of steaming method. Our findings have provided useful information which could be applied for process development of health food products from red kidney bean.

Keywords: Phenolic, flavonoid, DPPH, FRAP, processing.