

Chemical Characterization and Antioxidant Capacity of Flour From Two Soya Bean Cultivars (Glycine Max)

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Abstract : A comparative study between two varieties of soya beans was carried out in this work. The method consists of studying and proceeding to prepare a by-product (Flour) from two varieties of soybeans, a Chinese variety imported and marketed in Algeria. The chemical composition of ash, protein and fat was determined in this study. The minerals, namely potassium and sodium, were measured by flame spectrophotometer. In addition, the estimation of the polyphenol content and evaluation of the antioxidant activity Ferric Reducing Antioxidant Power assay (FRAP) of the methanol extracts of the flours were also carried out. The result revealed that soy flour from two cultivars, on average, contained 8% moisture, more than 50% protein, 1.58-1.87g fat, and 0.28-0.30g of ash. A slight difference was found for contents of 489 mg/ml of K⁺ and 20 mg/ml of Na⁺. In addition, the phenolic content of the methanolic extracts gives a value of almost 37 mg EAG / g for both cultivars of soy flour. The estimated Reductive Antioxidant Iron (FRAP) potency of soy flour might be related to its polyphenol richness, which is similar to the variety of China. The flour Soya varieties tested contained a significant amount of protein and phenolic compounds with good antioxidant properties.

Keywords : soya beans, soya flour, protein, total polyphenols

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