CONCENTRATION OF SELENIUM AND RELATION BETWEEN CONTENT OF LIPIDS AND PHENOLIC COMPOUNDS PRESENT IN THE BRAZIL NUT (*Bertholletia excelsa* H.B.K.)

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The high content of selenium, lipids and phenolic compounds has been associated with the functional properties of the Brazil nut. This nut is a rich food in selenium, but little is known about the presence of other compounds with antioxidant activity. To evaluate the content of selenium, lipids and to relate with antioxidant activity *in vitro* and phenolic compounds in the Brazil nut (*Bertholletia excelsa* HBK). Selenium was determined by atomic absorption spectrometry by hydride generation. The lipid extraction and derivatization was performed according to method proposed by AOAC. Were obtained the fractions: free phenolic acids (FPA), soluble (SPA) and insoluble (IPA) of defatted nuts to quantify the phenolic compounds and antioxidant activity *in vitro* by methods of inhibition spontaneous peroxidation and DPPH. Selenium concentration was 111.10 ± 6.26 µg/g of in natura nuts. The percentage of total fat was 69.77 ± 0.93%. Saturated, monounsaturated and polyunsaturated fatty acids corresponded to 16.39 ± 0.24, 22.58 ± 0.32 and 27.74 ± 0.36 g/100 g of sample. Oleic and linoleic acids are responsible for concentration of mono and polyunsaturated fatty acids, respectively. Among the fractions, FPA had the highest amount of phenolic compounds expressed in mg/g of defatted sample (6.95), followed by SPA (4.11) and IPA (1.76). However, all three fractions had antioxidant activity by two studied methods. Brazil nut besides be a good source of selenium has significant amounts of mono and polyunsaturated fatty acids, which are related with the phenolic content and antioxidant activity.

**Keywords:** selenium, lipids, antioxidant, Brazil nut