

## Phytochemical Screening, Antioxidant Potential, and Mineral Composition of Dried *Abelmoschus esculentus* L. Fruits Consume in Gada Area of Sokoto State, Nigeria

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**Abstract :** *Abelmoschus esculentus* L. fruit is very common especially in northern part of Nigeria, but people are ignorant of its medicinal and pharmacological benefits. Preliminary phytochemical screening, antioxidant potential and mineral composition of the dried form of this fruit were determined. The Phytochemical screening was conducted using standard methods. Antioxidant potential screening was carried out using Ferric Reducing Antioxidant Power Assay (FRAP) method, while, the mineral compositions were analyzed using an atomic absorption spectrophotometer by wet digest method. The result of the qualitative phytochemical screening revealed that the fruits contain saponins, flavonoids, tannins, steroids, and terpenoids, while, anthraquinone, alkaloids, phenols, glycosides, and phlobatannins were not detected. The quantitative analysis revealed that the fruits contain saponins ( $380 \pm 0.020$  mg/g), flavonoids ( $240 \pm 0.01$  mg/g), and tannins ( $21.71 \pm 0.66$  mg/ml). The antioxidant potential was determined to be  $54.1 \pm 0.19\%$ . The mineral composition revealed that 100 g of the fruits contains  $97.52 \pm 1.04$  mg of magnesium (Mg),  $94.53 \pm 3.21$  mg of calcium (Ca),  $77.10 \pm 0.79$  mg of iron (Fe),  $47.14 \pm 0.41$  mg of zinc (Zn),  $43.96 \pm 1.49$  mg of potassium (K),  $42.02 \pm 1.09$  mg of sodium (Na),  $0.47 \pm 0.08$  mg of copper (Cu) and  $0.10 \pm 0.02$  mg of lead (Pb). These results showed that the *Abelmoschus esculentus* L. fruit is a good source of antioxidants, and contains an appreciable amount of phytochemicals, therefore, it has some pharmacological attributes. On the other side, the fruit can serve as a nutritional supplement for Mg, Ca, Fe, Zn, K, and Na, but a poor source of Cu, and contains no significant amount of Pb.

**Keywords :** *Abelmoschus esculentus* Fruits, antioxidant potential, mineral composition, phytochemical screening

**Conference Title :** ICBMB 2014 : International Conference on Biochemistry, Biophysics and Molecular Biology

**Conference Location :** Madrid, Spain

**Conference Dates :** November 10-11, 2014