Proximate Analysis and Phytochemical Properties of Sesame (Sesamum Indicum L.) Seeds Grown and Consumed In Abakaliki, Ebonyi State, Nigeria

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Abstract*—Proximate and phytochemical compositions of *Sesamum* indicum seeds cultivated and consumed in Abakaliki, were determined. Abakaliki is the capital of Ebonyi State, one of the five south-eastern states of Nigeria. Sesame seeds are edible seeds which grow in pods. The fruit is a pubescent capsule grooved with a short triangular beak. Proximate analysis was carried out using the methods described by the Association of Official Analytical Chemists, A.O.A.C. (1997), while phytochemical analysis was carried out using the methods described by Harborne (1973). Sesame is principally cultivated in the northern part of Nigeria. However, bountiful harvest has been recorded recently in some southern states including Abakaliki, Ebonyi. This research was thus carried out to determine the effect of change in soil and climatic conditions on the nutritional contents of sesame. Proximate analysis indicated that sesame seeds contained 28.37% carbohydrate, 26.63% fats/oil, 23.32% protein, 7.37% moisture, 10.28% crude fibre and 4.02% ash. Determination of the phytochemical contents of the seed showed the presence of saponin (5.60mg/100g), alkaloid (4.80mg/100g), tannin (3.87mg/100g), phenol (13.83mg/100g) and flavonoids (18.03mg/100g). Statistical analyses showed that carbohydrates, fats/oil and proteins occur in significant quantities; an indication that sesame seeds possess high nutritive values. Also, the presence of significant values of some phytochemicals like flavonoids and phenol implies that sesame seeds are endowed with antioxidant and other medicinal potentials. Consumption of *Sesamum indicum* seeds is thus recommended as part of daily dietary intake due to the high nutritional and medicinal values.

***Key* words: Proximate Analysis, Phytochemicals, *Sesamum indicum*, Sesame, Antioxidant, Abakaliki, Ebonyi.**

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