TITLE: EFFECT OF PROCESSING ON SENSORY CHARACTERISTICS AND CHEMICAL COMPOSITION OF COTTONSEED (*Gossypium hirsutum*) AND ITS EXTRACT

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ABSTRACT

The seeds of cotton (*Gossypium hirsutum*) fall among the lesser well known oil seeds. Cottonseeds are not normally used in their natural state because of their gossypol content, an anti-nutritional factor. Processing of cottonseed will have a significant impact on its utilization.

The effect of processing on the sensory characteristics and chemical composition of cottonseed and its extract was studied by subjecting the cottonseed extract to heat treatment and the cottonseed to fermentation. The heat treatment on the cottonseed extract was done using the open pot and the pressure pot for 30 minutes respectively. The fermentation of the cottonseed was carried out for 6 days with samples withdrawn at intervals of 2 days. The extract and fermented samples were subjected to chemical analysis evaluated for colour, aroma, taste, mouth feel, appearance and overall-acceptability.

The chemical constituents of the samples from the open pot were 76.31% moisture, 11.97% crude protein, 1.95% crude fat, 0.57% crude fibre, 1.73% ash, 0.0027% gossypol and pH of 7.34 while for the pressure pot were 74.03%, 12.48%, 2.64%, 0.66%, 2.32%, 0.0038% and 7.16 respectively. The open pot sample was more preferred. Fermentation for 6 days resulted into a significant reduction in gossypol level of the cottonseed from 0.0013% to 0.0002%. However, the cottonseed fermented for 2 days was most preferred by panellists. Establishing standards for processing of varieties of oil seeds is essential in order to ensure that foods consumed by humans and livestock are nutritious with low anti-nutritional factors and safe.