

## Effect of Local Processing Techniques on the Nutrients and Anti-Nutrients Content of Bitter Cassava (*Manihot Esculenta Crantz*)

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**Abstract :** The effects of local processing techniques on the nutrients and anti-nutrients content of bitter cassava were investigated. Raw bitter cassava tubers were boiled, sundried, roasted, fried to produce Kuese, partially fermented and sun dried to produce Alubo, fermented by submersion to produce Akpu and fermented by solid state to produce yellow and white gari. These locally processed cassava products were subjected to proximate, mineral analysis and anti-nutrient analysis using standard methods. The result of the proximate analysis showed that, raw bitter cassava is composed of 1.85% ash, 20.38% moisture, 4.11% crude fibre, 1.03% crude protein, 0.66% lipids and 71.88% total carbohydrate. For the mineral analysis, the raw bitter cassava tuber contained 32.00% Calcium, 12.55% Magnesium, 1.38% Iron and 80.17% Phosphorous. Even though all processing techniques significantly increased the mineral content, fermentation had higher mineral increment effect. The anti-nutrients analysis showed that the raw tuber contained 98.16mg/100g cyanide, 44.00mg/100g oxalate 304.20mg/100g phytate and 73.00mg/100g saponin. In general all the processing techniques showed a significant reduction of the phytate, oxalate and saponin content of the cassava. However, only fermentation, sun drying and gasification were able to reduce the cyanide content of bitter cassava below the safe level (10mg/100g) recommended by Standard Organization of Nigeria. Yellow gari(with the addition of palm oil) showed low cyanide content (1.10 mg/100g) than white gari (3.51 mg/100g). Processing methods involving fermentation reduce cyanide and other anti-nutrients in the cassava to levels that are safe for consumption and should be widely practiced.

**Keywords :** bitter cassava, local processing, fermentation, anti-nutrient.

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