



MICROORGANISMS, PROXIMATE AND ANTI-NUTRIENT CONTENT OF FERMENTING KOLANUT (*COLA NITIDA* VENT SCHOTT AND ENDEL) WHITE SHELL

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ABSTRACT

Microorganisms, proximate and anti-nutrient content of fermenting kolanut (*Cola nitida* Vent Schott and Endel) white shell were investigated for a period of seven days. The microbiological analyses were carried out using standard methods. Microorganisms isolated and identified included *Bacillus cereus*, *B. firmis*, *B. lactosporus*, *B. licheniformis*, *B. sphaericus*, *B. subtilis* and *Staphylococcus aureus* for bacteria and *Articulospora inflata*, *Aspergillus flavus*, *A. fumigatus*, *A. niger*, *Rhizopus nigricans* and *Saccharomyces cerevisiae* for fungi. The pH of the fermenting white shell ranged from 5.21 to 6.08, titratable acidity (TTA) (1.26 to 3.60) and temperature 30 to 31⁰C). Also the proximate analyses revealed the presence of protein varying from 3.06 to 4.15%, moisture (10.60 to 15.15%), ash (3.63 to 5.74%), fat (1.55 to 4.11%), fibre (3.60 to 5.22%) and carbohydrate (63.27 to 74.55%). The mineral analyses showed the presence of potassium, sodium, calcium, magnesium, iron and phosphorous in varying concentrations. The results of the anti-nutrient content indicated reduction in the amount of tannins, phytate, oxalate, saponin, alkaloids, glycosides and steroids during the period of study. However, day four gave the best quality characteristics of the fermented kolanut white shell.

Keywords: Kolanut, proximate, antinutrient, white shell, fermenting