



REVIEWER'S REPORT

Manuscript No.: IJAR-50463

Date: 01-03-2025

Title: Biochemical composition of soy-enriched fermented tiger nut milk

Recommendation:

- Accept as it is.....**YES**.....
- Accept after minor revision.....
- Accept after major revision
- Do not accept (*Reasons below*)

Rating	Excel.	Good	Fair	Poor
Originality	√			
Techn. Quality		√		
Clarity		√		
Significance			√	

Reviewer's Name: Tahir Ahmad

Reviewer's Decision about Paper: **Recommended for Publication.**

Comments (*Use additional pages, if required*)

Reviewer's Comment / Report

General Overview:

The manuscript provides a comprehensive study on the biochemical composition of soy-enriched fermented tiger nut milk, focusing on its nutritional enhancement and potential health benefits. The study addresses the problem of food availability and nutrient deficiencies in sub-Saharan Africa, highlighting the under-exploited potential of tiger nuts. The research effectively integrates biochemical analyses to quantify nutrient levels, demonstrating the nutritional improvements resulting from fermentation.

Abstract:

The abstract effectively presents the study's objectives, methodology, and key findings. It succinctly outlines the significance of soy-enriched tiger nut milk in addressing micronutrient deficiencies. The inclusion of specific nutrient values and their variations provides a clear quantitative summary of the results. The conclusion is well-stated, reinforcing the study's significance.

Introduction:

The introduction provides a strong background on the issues of malnutrition and micronutrient deficiencies, particularly in Africa. It effectively justifies the study by referencing the nutritional potential of soybeans and tiger nuts. The literature review supports the rationale for investigating their biochemical properties, and the discussion of their nutritional benefits is well-founded. The introduction successfully contextualizes the study and establishes its relevance.

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Materials and Methods:

The methodology is detailed and well-structured, covering sample preparation, fermentation, and biochemical analyses. The choice of analytical techniques, such as pH measurement, titratable acidity, and biochemical assays, is appropriate for assessing the nutritional profile. The inclusion of references for the analytical methods used enhances the credibility of the study. The description of procedures is clear, allowing for reproducibility.

Results and Discussion:

The study presents well-organized biochemical data on nutrient variations in soy-enriched tiger nut milk. The findings indicate a significant improvement in nutrient availability post-fermentation, including increased polyphenols, flavonoids, and proteins, alongside reduced anti-nutritional factors. The results are well-supported by literature, and the discussion effectively links biochemical changes to nutritional benefits. The statistical data presentation is clear, with appropriate use of numerical values and comparisons.

Conclusion:

The conclusion concisely summarizes the key findings and their implications for food security and nutrition. It reinforces the study's contribution to enhancing the nutritional value of tiger nut milk through fermentation. The recommendation for sensory evaluation tests is relevant for assessing consumer acceptability.

References:

The citations are well-integrated, and the references support the study's claims. They include relevant studies that contribute to the validity of the findings.

Overall Assessment:

The manuscript is well-structured, informative, and contributes valuable insights into improving food quality through fermentation. The biochemical analyses and discussion effectively highlight the potential of soy-enriched fermented tiger nut milk as a nutritionally enhanced food product.
