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REVIEWER'S REPORT

Manuscript No.: **IJAR-52787** Date: 16-07-2025

Title: Cassava Response to Organomineral Fertilization in Savannah and Forest Zones of the Central African Republic

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

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

Reviewer Name: Tahir Ahmad

Reviewer's Comment for Publication.

General Assessment:
The paper addresses a crucial agricultural issue by investigating the effects of organomineral fertilization on cassava yield in distinct agroecological zones of the Central African Republic. It presents a well-structured and empirical study that contributes meaningfully to understanding nutrient management practices in tropical cropping systems, particularly for a staple crop like cassava.

Abstract Evaluation:
The abstract effectively summarizes the study's objectives, methodology, key findings, and significance. It clearly identifies the design used (Box-Behnken), the main variables (N, P, K, and organic manure), the response metrics (cassava yield), and the significant outcomes, including statistical relevance. The inclusion of treatment-specific yield values adds quantitative clarity and emphasizes the practical implications of the research. The abstract provides a comprehensive and informative overview that aligns well with the body of the paper.

Introduction Evaluation:
The introduction provides a solid contextual foundation for the study, articulating the importance of cassava in the Central African Republic and outlining the key soil fertility constraints in the region. It successfully establishes the relevance of the research by referencing past studies, highlighting yield gaps, and emphasizing the need for integrated nutrient management. The rationale for combining organic and mineral fertilizers is presented with reference to established literature, lending credibility and scholarly grounding to the study's approach.

Methodology and Experimental Design:
The use of a Box-Behnken design and the application of MINITAB software for treatment generation reflect a statistically robust and methodologically sound approach. The explanation of factor coding (-1,

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0, +1) and the purpose of including central points demonstrate attention to experimental reliability and precision. The design enables the modeling of interactions among nutrients, which is appropriate for identifying optimal fertilization strategies in variable agroecological settings.

Results and Statistical Analysis:
The results are clearly presented with specific treatment combinations and corresponding yield outputs for both forest and savannah ecosystems. The statistical significance ($p = 0.000$) and high R^2 value (0.91) underscore the strength of the regression models used and the reliability of the findings. The distinction between performance across ecosystems reinforces the ecological sensitivity of cassava to nutrient inputs. The inclusion of detailed yield metrics strengthens the empirical grounding of the study.

Scientific Contribution and Relevance:
This research contributes to the body of knowledge on site-specific nutrient management in cassava cultivation. The use of response surface methodology and multivariate regression provides actionable insights into optimizing nutrient combinations. The findings have direct relevance for agricultural policy, extension services, and farmer practices in CAR and similar agroecological contexts in sub-Saharan Africa.

Terminology and Language Use:
The technical language is appropriate for the target academic audience. Key agronomic and statistical terms are accurately used, and references are appropriately cited. The keywords reflect the thematic core of the study and aid in its academic discoverability.

Conclusion Alignment (as inferred from abstract and introduction):
The study leads to the conclusion that balanced combinations of potassium, organic manure, and moderate levels of nitrogen and phosphorus optimize cassava yield. This is well-supported by the presented data and aligns with existing agronomic understanding. The research reinforces the value of integrated nutrient management in resource-constrained farming systems.

Final Remarks:
This paper presents a methodologically sound, statistically robust, and practically relevant study on organomineral fertilization in cassava. It successfully bridges scientific inquiry with real-world agricultural application, contributing valuable knowledge to the field of sustainable tropical agronomy.