

REVIEWER'S REPORT

Manuscript No.: IJAR-52274

Date: 16-06-2025

Title: GROWTH AND YIELD PERFORMANCE OF RATOON RICE NSIC RC 160 APPLIED WITH SEAWEED-BASED FERTILIZERS UNDER DIFFERENT CUTTING HEIGHTS

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

Overall Evaluation

The manuscript presents a comprehensive and well-executed study on the interaction between cutting height and fertilizer application in ratoon rice cultivation. It effectively integrates agronomic research with practical field implications, offering valuable insights into sustainable rice production practices. The topic is relevant in the context of rising input costs, climate-resilient practices, and environmental sustainability.

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Abstract Evaluation

The abstract clearly outlines the objective, experimental design, treatments, statistical tools used, and key findings of the study. The factorial arrangement under RCBD and the use of STAR software for analysis are appropriately noted, indicating methodological rigor. The contrast between the effects of different cutting heights is articulated effectively, and the mention of economic evaluation strengthens the applied relevance of the study. The summary is well-balanced between agronomic performance and economic analysis, which enhances its value for both academic and practitioner audiences.

Relevance and Contribution

The focus on ratoon rice—a system that allows for resource-efficient double harvests—addresses the pressing need for cost-effective and sustainable agriculture. The inclusion of seaweed-based fertilizers (Vitalgro Carrageenan and Fermented Kulapo *Sargassum* spp.) adds novelty, especially in the search for organic and local nutrient sources. The findings provide empirical support for integrating low-input practices with agronomic optimization in ratoon farming. The study is particularly relevant for smallholder rice farmers and agronomists seeking climate-smart practices.

Methodological Rigor

The use of a 4×3 factorial RCBD ensures a robust experimental setup. The statistical analysis using ANOVA and LSD through STAR software reflects adherence to standard agronomic research practices. The choice of yield parameters (plant height, panicle length, flowering, grain weight, tiller number) and economic indicators (gross income, ROI) offers a well-rounded evaluation of both biological and practical outcomes.

Findings and Interpretation

The distinction among cutting heights is clearly presented. The 45 cm height's benefit for vegetative growth, the 35 cm for earliness, and the 15 cm for grain quality and yield suggest a

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nuanced understanding of ratoon physiology. The limited but notable impact of seaweed-based fertilizers, especially Fermented Kulapo in combination with 15 cm cutting height, is an important takeaway for promoting alternative, eco-friendly fertilizers. The results are logical, well-explained, and align with existing literature.

Clarity and Presentation

The manuscript is clearly written, with appropriate use of technical terms without overcomplication. The transitions between experimental design, results, and interpretation are smooth. Definitions and citations are properly integrated. The introduction provides adequate context and justification for the study, aligning the local problem (input cost, land limitation) with global trends in sustainable agriculture.

Conclusion

The study is a valuable contribution to the field of agronomy, particularly in promoting the practice of ratooning and exploring the role of seaweed-based fertilizers in enhancing yield and sustainability. The work is well-structured, data-driven, and relevant to both academic research and practical farming systems.