

Review Form 3

Journal Name:	International Journal of Plant & Soil Science
Manuscript Number:	Ms_IJPSS_125870
Title of the Manuscript:	Nitrogen use efficiency of Boro rice as affected by long term inorganic and organic fertilization
Type of the Article	Original type

General guidelines for the Peer Review process:

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound. To know the complete guidelines for the Peer Review process, reviewers are requested to visit this link:

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Review Form 3

PART 1: Review Comments

Compulsory REVISION comments	Reviewer's comment	Author's Feedback <i>(Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)</i>
<p>Please write a few sentences regarding the importance of this manuscript for the scientific community. Why do you like (or dislike) this manuscript? A minimum of 3-4 sentences may be required for this part.</p>	<p>This manuscript provides valuable insights into the impact of balanced fertilization on rice yield and nitrogen use efficiency (NUE), highlighting the importance of incorporating essential nutrients such as nitrogen, phosphorus, potassium, sulfur, and zinc in crop production systems. The findings are significant for the scientific community, as they emphasize the necessity of comprehensive nutrient management in optimizing agricultural productivity, particularly in regions with nutrient-deficient soils. I appreciate the rigor of the experimental design and the thorough analysis of various treatments, which enhances the reliability of the results. However, the manuscript would benefit from a more detailed discussion of the environmental implications of fertilizer use, including potential impacts on soil health and sustainability. Overall, it contributes meaningfully to the existing literature on nutrient management in rice cultivation and offers practical recommendations for agricultural practitioners.</p>	
<p>Is the title of the article suitable? (If not please suggest an alternative title)</p>	<p>The title "Nitrogen Use Efficiency of Boro Rice as Affected by Long-Term Inorganic and Organic Fertilization" is suitable as it clearly conveys the focus of the research on nitrogen use efficiency (NUE) in Boro rice and the impact of both inorganic and organic fertilization practices over an extended period. However, to enhance clarity and specificity, you might consider a more descriptive title, such as:</p> <p>"Comparative Analysis of Nitrogen Use Efficiency in Boro Rice Under Long-Term Inorganic and Organic Fertilization Practices"</p> <p>This alternative title emphasizes the comparative nature of the study and suggests a broader examination of the effects of different fertilization strategies on NUE.</p>	
<p>Is the abstract of the article comprehensive? Do you suggest the addition (or deletion) of some points in this section? Please write your suggestions here.</p>	<p>The abstract could benefit from a clearer statement of the specific objectives at the beginning. Explicitly stating the purpose of evaluating nitrogen use efficiency in Boro rice under different fertilization treatments would strengthen the reader's understanding. Including a brief mention of the experimental design (e.g., the number of treatments, duration of the study, and specific metrics used to measure nitrogen use efficiency) would provide context for the results presented.</p> <p>While the abstract mentions significant findings regarding nitrogen use efficiency, it could be improved by specifying quantitative results, such as average NUE values for each treatment group. The conclusion could be strengthened by succinctly summarizing the main takeaway, emphasizing the importance of balanced fertilization practices for optimizing nitrogen use efficiency in Boro rice cultivation.</p>	
<p>Are subsections and structure of the manuscript appropriate?</p>	<p>The structure of the manuscript is generally appropriate and follows a logical flow that facilitates reader comprehension. The main sections—Introduction, Methods, Results, Discussion, Conclusion, and References—are clearly delineated, which is essential for a scientific paper in the field of soil science.</p> <p>However, there are several areas where the organization and clarity can be enhanced. First, it would be beneficial to include more specific subsections within the Methods and Results sections. For example, in the Methods section, subsections could be titled "Study Area," "Experimental Design," "Fertilization Treatments," and "Data Analysis." This would provide a clearer framework for readers to understand the methodology employed in the study.</p> <p>In the Introduction, while the significance of the research is articulated, a brief overview of relevant prior studies would strengthen the context. Highlighting existing gaps in knowledge regarding nitrogen use efficiency and fertilization practices would underscore the necessity of your investigation and justify the study's objectives.</p> <p>Regarding the Results section, it would enhance clarity to utilize tables or figures to summarize key findings. This approach not only improves readability but also allows for quick visual comparisons of data. It is essential that each figure or table is referenced in the text and accompanied by a clear explanation of its significance to the study.</p> <p>In the Discussion, organizing content thematically could provide a more structured analysis. You might consider addressing the effects of different fertilization treatments, the implications for agricultural practices, and recommendations for future research separately. This thematic organization would help convey the significance of your findings and their relevance to the broader scientific community more effectively.</p> <p>Finally, the Conclusion can reiterate the study's importance, emphasizing its practical applications and suggesting directions for future</p>	

Review Form 3

	research.	
Please write a few sentences regarding the scientific correctness of this manuscript. Why do you think that this manuscript is scientifically robust and technically sound? A minimum of 3-4 sentences may be required for this part.	The manuscript demonstrates scientific robustness through its well-defined experimental design and rigorous methodology. The choice of treatments, particularly the incorporation of both inorganic and organic fertilizers, aligns with current best practices in soil management and crop productivity. Furthermore, the comprehensive data analysis, including nitrogen use efficiency and recovery metrics, reflects a solid understanding of agronomic principles and their implications for sustainable agriculture. The findings are well-supported by existing literature, reinforcing the technical soundness of the research and its contribution to advancing knowledge in soil science and crop management	
Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form. =	The references cited in the manuscript are generally sufficient and cover a range of relevant studies in the field of soil science and nitrogen use efficiency in rice cultivation. It would also be beneficial to include more recent studies, particularly those published within the last five years. Some suggested recent references might include: 1. Silva, R. D., et al. (2020). "The role of nitrogen use efficiency in sustainable agriculture: A review." <i>Agronomy Journal</i> . 2. Zhao, X., et al. (2021). "Advances in nitrogen fertilizer management for sustainable rice production." <i>Field Crops Research</i> . 3. Rahman, M. M., et al. (2023). "Integrated nutrient management for improved nitrogen use efficiency in rice systems." <i>Agricultural Systems</i> .	
<u>Minor</u> REVISION comments Is the language/English quality of the article suitable for scholarly communications?	The language and overall quality of English in the manuscript are generally appropriate for scholarly communication. The writing demonstrates a clear understanding of the subject matter and conveys complex scientific concepts effectively. However, there are instances where the sentence structure could be refined for clarity and conciseness. Here are a few examples of sentences from the manuscript 1. Original: "The highest nitrogen uptake (70.4 kg ha ⁻¹) by the grain and the highest value of recovery efficiency of nitrogen (54.06 %) were recorded for the NPKSZn treatment." ○ Revised: "The NPKSZn treatment recorded the highest nitrogen uptake (70.4 kg ha ⁻¹) and nitrogen recovery efficiency (54.06%)." 2. Original: "These findings indicated the essentiality of applying balanced doses of fertilizers covering all the major nutrients particularly nitrogen, phosphorus and potassium for rice cultivation in most of the soil conditions." ○ Revised: "These findings highlight the importance of applying balanced fertilizer doses that include key nutrients—specifically nitrogen, phosphorus, and potassium—for effective rice cultivation across various soil conditions." 3. Original: "Interestingly, plants height and grain yields were increased 3.8 cm and 0.3 t/ha, respectively in NPK+FYM treatment as compared to NPK." ○ Revised: "In the NPK+FYM treatment, plant height and grain yield increased by 3.8 cm and 0.3 t/ha, respectively, compared to the NPK treatment." 4. Original: "These results revealed the benefits of applying FYM. Perhaps, these increased plant height and grain yield resulted from the improved soil conditions and enhanced microbial activity caused by the application of FYM with NPK." ○ Revised: "These results underscore the benefits of applying FYM, likely due to improved soil conditions and enhanced microbial activity associated with its use alongside NPK."	
<u>Optional/General</u> comments		

PART 2:

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
Are there ethical issues in this manuscript?	<u>(If yes, Kindly please write down the ethical issues here in details)</u>	

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