Review Form 3

Journal Name:	**Journal of Experimental Agriculture International**
Manuscript Number:	**Ms_JEAI_121331**
Title of the Manuscript:	**Impact of Zinc Solubilizing Bacteria and Microbial Consortia on Growth and Yield of Rice (Oryza sativa L.)**
Type of the Article	**Original Research Article**

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PART 1: Review Comments

Compulsory REVISION comments	**Reviewer's comment**	**Author's Feedback** *(Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)*
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.	This manuscript offers significant insights into enhancing rice productivity through the application of Zn-solubilizing microbes, which is crucial for addressing micronutrient deficiencies sustainably. The study's focus on plant growth-promoting rhizobacteria (PGPR) and their role in increasing plant health and yield underscores its relevance to the scientific community, particularly in the context of sustainable agricultural practices. The identification of Enterobacter hormaechei as a promising candidate and the demonstrated improvements in plant height, leaf area index, chlorophyll content, and grain yield with microbial consortia provide valuable evidence supporting the use of these beneficial microbes as a viable alternative to traditional zinc fertilizers. The results contribute to the broader understanding of microbial interactions in soil and plant systems, highlighting their potential for improving crop performance and promoting sustainable agricultural practices.	
Is the title of the article suitable? **(If not please suggest an alternative title)**	"The Effect of Zinc Solubilizing Bacteria and Microbial Consortia on Rice Growth and Yield: Enhancements and Comparisons" This revised title emphasizes the effects and comparisons of different treatments, making it clear that the study focuses on both the improvement of rice growth and yield and the evaluation of various microbial treatments.	
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.	The abstract provides a good overview of the study's objectives, methods, and results. However, to improve its comprehensiveness and clarity, here are some suggestions for addition and revision: Introduction: Clarify the background on why Zn-solubilizing microbes are significant for rice cultivation and micronutrient deficiencies. Objective: State the specific research question or hypothesis being tested. Methodology: Briefly describe the experimental setup and how the bacterial isolates were applied. Results: Clearly differentiate between the effects of individual bacteria and microbial consortia, and specify any statistical significance where relevant. Conclusion: Emphasize the broader implications of the findings for sustainable agriculture and future research.	
Are subsections and structure of the manuscript appropriate?	Here are some suggestions to improve the structure and subsections of the manuscript: Introduction: - Ensure that the introduction culminates in a clear statement of the study's objectives, providing a solid foundation for readers to understand the motivation and significance of the research. Materials and Methods: - Ensure that each method is described in a way that provides a comprehensive understanding of the experimental design, including details such as plot size, statistical design, and sampling criteria. Results: - Refine the results to emphasize key numerical findings and significant trends, using tables and graphs where appropriate to enhance comprehension. - Ensure that the results are presented clearly and logically, following the sequence of the study's objectives.	

	Discussion: - Introduce a conclusion subsection to finalize the work with a synthesis of the results and their implications. - Keep the Discussion section separate from the Results section to ensure that the analysis and interpretation of the data are presented clearly and focused. - Highlight the study's limitations and suggest possible future research directions. This will help improve the clarity, cohesion, and relevance of the manuscript, providing a stronger and more informative structure for readers.	
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 and technical soundness through several key aspects. First, it addresses a critical issue in global food security by targeting zinc deficiency in rice, a staple crop for over half of the world's population. The study is grounded in a thorough understanding of micronutrient malnutrition, supported by recent literature that highlights the health implications of zinc deficiencies and the benefits of biofortification. Second, the use of plant growth-promoting rhizobacteria (PGPR) as a sustainable solution aligns with current research on enhancing crop yield and health through microbial interventions. The manuscript presents well-documented field experiments that validate the effectiveness of zinc-solubilizing bacteria and microbial consortia in improving rice growth parameters, with clear evidence of increased plant height, Leaf Area Index (LAI), total chlorophyll, total dry matter (TDM), and grain yield. Lastly, the results are consistent with recent studies on microbial treatments, reinforcing the study's credibility and its contribution to advancing sustainable agricultural practices. Overall, the study's integration of relevant background information, methodological rigor, and alignment with recent research underscores its scientific robustness and technical validity.	
Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form. **:**	The references used in the manuscript are adequate and recent, providing a solid foundation for the context and rationale of the study. However, I suggest incorporating additional references, particularly in the discussion section of the results. Including more recent and relevant studies could strengthen the analysis and comparison of the findings with other research in the field, offering a more comprehensive and up-to-date perspective on the topic. This will help to better situate the study's findings within the current literature and highlight its original contributions.	

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Minor REVISION comments **Is the language/English quality of the article suitable for scholarly communications?**	I suggest revising the English of the text.	
Optional/General comments	As a reviewer, I would like to suggest some improvements that could enhance the clarity and quality of the manuscript: 1. Experiment Images: I recommend including images of the experiments conducted, particularly to illustrate the effect of bacterial strains on rice plant height and Leaf Area Index (LAI). Visual images can provide a clearer understanding of the experimental results and help readers visualize the effects of different treatment conditions more concretely. 2. Enumeration of Formulas: It would be beneficial to enumerate and present the formulas used in the methodology before the images and tables. This will allow for a better understanding of the calculations and analyses performed and facilitate reference to these formulas when discussing the results. 3. Presentation of Figures: Figures should be presented in the text where they are discussed, so that readers can view the relevant data in the appropriate context. This will improve the cohesion between the description of results and the visualization of evidence. 4. Revision of Table 1: Table 1 should be revised to include more details about the treatments. I suggest adding columns that provide more specific information, such as the exact concentration of each treatment, the environmental conditions during application, and other relevant parameters. This will increase transparency and allow for a more detailed assessment of the experimental treatments. These additions and revisions will not only improve the clarity and presentation of the data but also enhance the robustness and utility of the manuscript for the scientific community.	

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?	*(If yes, Kindly please write down the ethical issues here in details)*	

Reviewer Details:

Name:	**Renato Dias Matosinhos**
Department, University & Country	**Federal University of Santa Catarina, Brazil**