

**ReviewForm3**

JournalName:	<a href="#">JournalofAdvancesinBiology&amp;Biotechnology</a>
ManuscriptNumber:	Ms_JABB_128005
TitleoftheManuscript:	GeneticVariabilityStudiesforYieldanditsassociatedtraitsinRice(OryzasativaL.)forLowSoilPhosphorusCondition
TypeoftheArticle	

**PART1** 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)
<p><b>Please write a few sentences regarding the importance of this manuscript for the scientific community. A minimum of 3-4 sentences may be required for this part.</b></p>	<p>This manuscript is of significant importance to the scientific community as it addresses a critical agricultural challenge: improving rice cultivars for better tolerance to low-phosphorus soils. Phosphorus, being a non-renewable resource, poses a major concern for the sustainability of agroecosystems. The study highlights essential genetic and phenotypic variability, providing valuable insights for the selection and development of rice varieties adapted to such stressful conditions. These advancements can help reduce dependency on phosphorus-based fertilizers, lower costs for farmers, and mitigate environmental impacts.</p>	
<p><b>Is the title of the article suitable? (If not please suggest an alternative title)</b></p>	<p>The title of the article is clear and provides a concise summary of the study's focus. It effectively conveys the main themes of the research: genetic variability, yield-related traits, and adaptation to low-phosphorus soil conditions in rice. However, if the aim is to make the title more engaging or precise, it could be slightly rephrased, for example: "<i>Exploring Genetic Variability in Rice for Yield Improvement under Low-Phosphorus Soil Conditions</i>." This version emphasizes the purpose and scope of the study in a more dynamic way.</p>	

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<p><b>Istheabstractofthearticlecomprehensive?Doyousuggesttheadition(ordeletion)ofsomepointsinthissection?Pleasewriteyoursuggestionshere.</b></p>	<p>The abstract of the article is comprehensive and provides a clear summary of the research objectives, methods, and key findings. It highlights the importance of phosphorus as a macronutrient, the impact of low-phosphorus conditions on rice, and the genetic variability observed in the study. However, there are areas where it can be refined for clarity and emphasis:</p> <p>Suggestions for Improvement :</p> <ol style="list-style-type: none"> <li><b>1. Focus on Objectives and Outcomes:</b> <ul style="list-style-type: none"> <li>o While the abstract mentions the evaluation of genetic variability and traits, it could explicitly state how the findings contribute to improving phosphorus-use efficiency in rice.</li> <li>o Example: <i>"This study identifies key traits and genetic variability essential for developing phosphorus-efficient rice cultivars."</i></li> </ul> </li> <li><b>2. Quantitative Details:</b> <ul style="list-style-type: none"> <li>o The abstract includes statistical results like high GCV and PCV values, which are useful but may overwhelm readers not familiar with these metrics. These could be summarized qualitatively (e.g., <i>"significant genetic variability was observed for traits under low phosphorus conditions"</i>).</li> </ul> </li> <li><b>3. Practical Implications:</b> <ul style="list-style-type: none"> <li>o The practical relevance of findings—such as their potential to reduce reliance on phosphorus fertilizers and enhance sustainable agriculture—could be emphasized more clearly.</li> </ul> </li> </ol>	
<p><b>Isthe manuscript scientifically correct? Please write here.</b></p>	<p>Based on the content provided, the manuscript appears to be scientifically sound and grounded in relevant research methodologies. It addresses a critical agricultural issue—phosphorus deficiency—and provides a detailed evaluation of genetic variability in rice under both normal and low-phosphorus soil conditions. Here are the key points supporting its scientific accuracy, along with some considerations:</p> <p><b>Positive Aspects:</b></p> <ol style="list-style-type: none"> <li><b>1. Clear Research Focus:</b> <ul style="list-style-type: none"> <li>o The study highlights the importance of phosphorus for crop growth and the challenges associated with its deficiency.</li> <li>o It aligns with global agricultural priorities, including sustainability and resource efficiency.</li> </ul> </li> <li><b>2. Robust Methodology:</b> <ul style="list-style-type: none"> <li>o The use of an augmented block design and multiple traits for phenotypic assessment indicates a well-structured experimental approach.</li> <li>o Statistical analyses (e.g., ANOVA, GCV, PCV, heritability, and genetic advance) are appropriate for assessing genetic variability.</li> </ul> </li> <li><b>3. Relevant Literature Support:</b></li> </ol>	

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	<ul style="list-style-type: none"> <li>o The manuscript references key studies to contextualize the importance of phosphorus and its role in rice production, ensuring its findings are built on established knowledge.</li> </ul> <p style="color: red;"><b>Points for Consideration:</b></p> <p><b>1. Experimental Reproducibility:</b></p> <ul style="list-style-type: none"> <li>o Ensure that all experimental details, such as soil phosphorus levels, genotypes used, and environmental conditions, are described with enough clarity to allow replication.</li> </ul> <p><b>2. Statistical Interpretation:</b></p> <ul style="list-style-type: none"> <li>o The manuscript relies heavily on statistical metrics (e.g., heritability, GCV, PCV). It's important to ensure these metrics are interpreted clearly for both specialized and non-specialized audiences.</li> </ul> <p><b>3. Conclusion and Practical Implications:</b></p> <ul style="list-style-type: none"> <li>o While the findings are scientifically valid, their practical application for breeding programs and agricultural practices could be emphasized more prominently.</li> </ul>	
<p><b>Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.</b></p>	<p>The references included in the manuscript appear to be comprehensive and relevant to the research topic. They cover key aspects of phosphorus deficiency, genetic variability, and plant breeding strategies. Several references are recent, such as those from 2019, 2020, and 2021, which indicate an effort to incorporate up-to-date findings. However, a few references date back to the 1990s and early 2000s, which might be acceptable if they are foundational but could be supplemented with newer studies if more recent work is available.</p> <p style="color: red;"><b>Suggestions for Additional Reference</b></p> <p style="color: red;"><b>Recent Reviews on Phosphorus Use Efficiency:</b></p> <p>Improving of phosphorus use efficiency in Plant-Soil-System. A review August 2020 Middle East Journal of Agriculture Research DOI:10.36632/mejar/2020.9.3.39</p> <p>Enhancing phosphorus use efficiency and soil quality indicators in lowland paddy ecosystem through Azolla, rice straw, and NPKS fertilizers. Sec. Climate-Smart Agronomy-Volume 6-2024   <a href="https://doi.org/10.3389/fagro.2024.1376110">https://doi.org/10.3389/fagro.2024.1376110</a></p>	

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<b>Isthe language/English quality of the articles suitable for scholarly communications?</b>	<b>Language:</b> <ul style="list-style-type: none"><li>o Minor grammatical errors or overly technical phrases could hinder readability for some audiences. A review for language clarity and consistency is recommended.</li></ul>	
<b>Optional/General</b> comments	The manuscript is scientifically correct, with appropriate methodologies and logical interpretations of the results. Addressing the above considerations could further strengthen its impact and accessibility. If possible, seeking peer review or additional expert feedback would ensure comprehensive validation.	

### **PART 2:**

	<b>Reviewer's comment</b>	<b>Author's comment</b> (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)
<b>Are there ethical issues in this manuscript?</b>	<i>(If yes, Kindly please write down the ethical issues here in details)</i>	

### **Reviewer Details:**

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