

Review Form 3

Journal Name:	International Journal of Plant & Soil Science
Manuscript Number:	Ms_IJPSS_126046
Title of the Manuscript:	Drought stress screening in backcross inbred lines of rice (<i>Oryza sativa</i> L.) at germination and seedling stage
Type of the Article	Original Research Article

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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 makes an important contribution to agricultural science, especially in crop stress biology, by tackling the issue of drought stress in rice, a key food for more than half the world's population. The study of drought tolerance in backcross inbred rice lines at the germination and seedling stages offers valuable insights that could help create more drought-resistant rice varieties, improving food security in affected regions.</p> <p>However, the manuscript would be clearer with a better explanation of the methods used to measure and analyze physiological traits under stress, which would help with reproducibility. Also, while the experiment is well-designed, the discussion could be stronger by comparing the results with other drought tolerance studies in rice, giving the findings a wider context. Overall, this research addresses an important gap but could benefit from clearer methodology and more comparison with existing studies.</p>	
<p>Is the title of the article suitable? (If not please suggest an alternative title)</p>	<p>The current title of the article, "Drought stress screening in backcross inbred lines of rice (<i>Oryza sativa</i> L.) at germination and seedling stage," is suitable as it clearly reflects the content and scope of the manuscript.</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 gives a clear overview of the study, its methods, and key results, which are essential parts of a good abstract. However, a few additions could make it more complete and useful:</p> <ol style="list-style-type: none"> 1. Clarify the Objective: Start with a clear research goal to let the reader know the purpose of the study. For example: "This study aims to identify drought-tolerant rice lines at the germination and seedling stages using polyethylene glycol (PEG) induced stress." 2. Add Method Details: Briefly mention the genetic traits or specific drought tolerance genes (like qDTY) to explain why these lines were selected. 3. Highlight Key Findings: Point out any important or novel results, such as if a specific line showed exceptional drought tolerance. 4. Mention Implications: Briefly explain how the findings could help future rice breeding programs, such as using these lines for breeding drought-resistant rice. 5. Review Keywords: Make sure the keywords are complete. Consider adding terms like "drought resilience" or "rice breeding" if not already there. 	
<p>Are subsections and structure of the manuscript appropriate?</p>	<p>The manuscript follows a typical scientific structure with sections like Abstract, Introduction, Materials and Methods, Results and Discussion, Conclusions, and References, which helps present the research clearly. However, a few improvements could be made:</p> <p>Abstract and Introduction:</p> <ul style="list-style-type: none"> • The abstract is thorough, but it could include more specific research goals and implications. • The introduction sets the context well but could briefly mention previous studies that identified genetic markers or traits related to drought tolerance in rice. <p>Materials and Methods:</p> <ul style="list-style-type: none"> • This section is detailed, which supports reproducibility. However, adding subheadings like "Experimental Design," "Plant Material," and "Statistical Analysis" could make it easier to follow. <p>Results and Discussion:</p> <ul style="list-style-type: none"> • While combining these sections can work, separating results from their discussion for each key finding would improve clarity. Use subheadings to organize topics like germination, seedling 	

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	growth, and stress indices, and relate findings to previous research for better context.	
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.	<p>The manuscript demonstrates strong scientific rigor and technical soundness in several areas. The use of polyethylene glycol (PEG6000) to simulate drought conditions is a well-established method in plant physiology, ensuring consistent and measurable water stress, which provides a reliable way to assess drought tolerance in rice lines. The use of a factorial completely randomized block design with three replications strengthens the reliability of the results by reducing bias and accurately assessing variances among the lines.</p> <p>The study also includes a thorough analysis of growth and stress-related indices, such as germination index, seedling vigor index, and stress tolerance indices, which are essential for evaluating the physiological responses of rice under drought stress. The statistical methods, including ANOVA and significance tests, are appropriate for the data and research objectives, ensuring that the conclusions are well-supported.</p> <p>Overall, the manuscript follows rigorous scientific standards, making it a valuable contribution to agricultural genetics and plant stress biology.</p>	
Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.	The manuscript uses a good mix of both foundational and recent references, which is important for a rapidly evolving topic like genetic responses to drought stress.	
<u>Minor</u> REVISION comments		
Is the language/English quality of the article suitable for scholarly communications?	The language and English quality of the manuscript, based on the excerpts provided, seem generally suitable for scholarly communication. The terminology is appropriate for the subject matter, and the sentences are structured to convey complex information effectively.	
<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?	<i>(If yes, Kindly please write down the ethical issues here in details)</i>	

Reviewer Details:

Name:	Minfeng Tang
Department, University & Country	University of Alberta, Canada