

Review Form 3

Journal Name:	Journal of Advances in Biology & Biotechnology
Manuscript Number:	Ms_JABB_127007
Title of the Manuscript:	Genetic Analysis of Key Traits for Sheath Blight Resistance and Yield Improvement in Rice (<i>Oryza sativa</i>)
Type of the Article	

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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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>
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 addresses a critical challenge in rice production: yield loss due to Sheath Blight (ShB). This has both environmental and economic implications. The use of 360 RILs across multiple seasons enhances the robustness of the findings. I appreciate the study's emphasis on identifying traits with high heritability, such as Relative Lesion Height (RLH), which are strong candidates for direct selection in breeding programs. As a study, it certainly has merit. However, improvements in the manuscript's review of scientific literature and presentation of data will certainly help.	
Is the title of the article suitable? (If not please suggest an alternative title)	The title is clear. However, 'Key Traits' is too general. An alternative title could be <i>Heritability and Genetic Advance in Breeding Sheath Blight Resistance and Yield Traits in Rice (Oryza sativa)</i> if a change is required.	
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 has strengths in that the research focus is clear. However, there are certainly areas for improvement. <ul style="list-style-type: none"> The abstract should briefly mention the use of 360 recombinant inbred lines (RILs) across two seasons to provide a clearer context for the results. While the abstract states that traits like RLH showed high heritability and genetic advance, including specific values (e.g., heritability percentages) for key traits would enhance the quantitative depth. The last sentence mentions sustainability but could be expanded to emphasize the study's relevance for global food security in ShB-prone regions. 	
Are subsections and structure of the manuscript appropriate?	<ul style="list-style-type: none"> The manuscript generally follows a standard scientific structure, but there are areas where improvements can enhance clarity and coherence. The introduction needs to clearly state the knowledge gaps the study aims to address with reference to scientific literature. Adding a brief summary of prior efforts in breeding for ShB resistance would also strengthen the rationale. Please mention why ARCBD was chosen in Materials and Methods section. Mention the temperature/humidity/environmental conditions during inoculation due to its effect on severity of infection. Also mention how environmental variability was controlled. Was bias and inter observer variability minimized during grading? How so? Critical engagement with scientific literature is required in the discussion section. In-depth discussion on Gene and Environment (GxE interactions) is required. Please comment on seasonality. Important: There is a lack of graphical representation for the data. Visual aids are paramount. There is minimal discussion on biological implications of the values obtained and the underlying scientific reason. The discussion acknowledges low heritability for grain yield but fails to dive into specific, literature-backed solutions for the same. Pathogen specific insights are not sufficiently integrated to explain the biological mechanisms that have resulted in such data. 	

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<p>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>	<p>The manuscript is scientifically robust due to a well-defined (albeit conventional) experimental design and use of 360 RILs evaluated across 2 seasons, strengthening reliability and reproducibility. The application of standard methods such as Typha inoculation technique for ShB assessment and use of established statistical parameters. Additionally, high heritability and genetic advance values for key traits like relative lesion height (RLH) provide strong evidence for their genetic control, supporting the conclusions drawn. The manuscript's results are consistent with prior studies, further validating its scientific correctness.</p>	
<p>Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form. -</p>	<ul style="list-style-type: none"> • Please check the formatting of the India Stat reference. • More papers could be cited with respect not just to the results themselves but also the scientific reason behind observed trends in the data. • Please cite the metrics that have been used. 	
<p><u>Minor</u> REVISION comments Is the language/English quality of the article suitable for scholarly communications?</p>	<ul style="list-style-type: none"> • The language is generally fine in the article. There are a few areas where small improvements could be made such as "...staple foods for more than half of world's population and an important integral part of Indian dietary" could be "Rice (Oryza sativa) is a staple food for over half of the world's population and a key component of the Indian diet" for improved grammatical accuracy. • Passive voice can be avoided in some areas for greater clarity. 	
<p><u>Optional/General</u> comments</p>	<p>The manuscript addresses an important challenge and lacks too many errors. The manuscript could benefit from an improved results and discussion section (consider separating them into two sections), a visual representation of data, and slightly clearer methodological descriptions.</p>	

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)
<p>Are there ethical issues in this manuscript?</p>	<p><i>(If yes, Kindly please write down the ethical issues here in details)</i></p>	

Reviewer Details:

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