

Review Form 1.8

Journal Name:	Journal of Scientific Research and Reports
Manuscript Number:	Ms_JSRR_120096
Title of the Manuscript:	Morphological status of heat stress efficient wheat (<i>Triticum aestivum</i> L.) genotypes under changing environments
Type of the Article	

General guideline for 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 guideline for Peer Review process, reviewers are requested to visit this link:

(<https://www.journaljsrr.com/index.php/JSRR/editorial-policy>)

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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>Is the manuscript important for scientific community? <i>(Please write few sentences regarding this manuscript to justify your answer)</i></p>	<p>Is the manuscript important for the scientific community? Yes, this manuscript appears to be important for the scientific community, particularly researchers and breeders working on wheat genetics and heat stress tolerance. The study provides valuable insights into the genetic basis of heat tolerance in wheat using Line x Tester analysis, which is crucial for developing climate-resilient wheat varieties.</p>	
<p>Is the title of the article suitable? (If not please suggest an alternative title)</p>	<p>Is the title of the article suitable? The title "Morphological status of heat stress efficient wheat (<i>Triticum aestivum</i> L.) genotypes under changing environments" is generally suitable, but could be more specific. A suggestion to improve it would be: "Genetic analysis of heat stress tolerance in wheat (<i>Triticum aestivum</i> L.) using Line x Tester mating design".</p>	
<p>Is the abstract of the article comprehensive?</p>	<p>Is the abstract of the article comprehensive? The abstract provides a good overview of the study, including background, methodology, key findings, and implications. However, it could be more concise and structured to better highlight the main results and conclusions.</p>	
<p>Are subsections and structure of the manuscript appropriate?</p>	<p>Are subsections and structure of the manuscript appropriate? Yes, the manuscript follows a logical structure typical of scientific papers, with clear sections for Introduction, Materials and Methods, Results and Discussion, and Conclusion. The subsections within these main sections are appropriate and help guide the reader through the various aspects of the study.</p>	
<p>Do you think the manuscript is scientifically correct? <i>(Please write few sentences regarding this manuscript to justify your answer)</i></p>	<p>Do you think the manuscript is scientifically correct? Based on the methodology described and the results presented, the manuscript appears to be scientifically sound. The authors have used established methods for genetic analysis and have provided detailed explanations of their procedures. The conclusions drawn seem to be supported by the data presented.</p>	
<p>Are the references sufficient and recent? If you have suggestion of additional references, please mention in the review form.</p>	<p>Are the references sufficient and recent? If you have suggestion of additional references, please mention in the review form. The references appear to be sufficient and include both classic and recent works in the field. The reference list includes papers from various years up to 2023, showing a good balance between foundational research and current studies. To further strengthen the literature review, the authors might consider including some very recent papers on wheat genomics and heat stress tolerance published in 2023-2024, if available.</p> <p>Is language/English quality of the article suitable for scholarly communications? The language quality is generally suitable for scholarly communication. The text is clear and understandable. However, there are some minor grammatical and stylistic issues that could be improved through careful editing to enhance readability and professionalism.</p> <p>1. Overall clarity: The article is generally understandable and conveys its scientific content effectively. The authors have used appropriate technical terminology and have structured their ideas in a logical manner.</p> <p>2. Grammar and syntax: While the grammar is mostly correct, there are some minor issues throughout the text. For example, there are occasional subject-verb agreement errors and improper use of articles (a/an/the).</p>	

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	<p>3. Sentence structure: Some sentences are overly long and complex, which can make them difficult to follow. Breaking these into shorter, more focused sentences would improve readability.</p> <p>4. Consistency: There are some inconsistencies in formatting and style, particularly in the use of abbreviations and technical terms. A thorough edit could help ensure consistency throughout the document.</p> <p>5. Scientific tone: The writing maintains an appropriate scientific tone overall, but there are a few instances where more formal language could be used.</p> <p>6. Punctuation: There are some minor punctuation errors, particularly with commas and semicolons, that could be corrected to improve flow and clarity.</p> <p>7. Tense usage: The manuscript generally uses appropriate tenses, but there are a few instances where tense consistency could be improved, especially when discussing results and their implications.</p> <p>8. Paragraphing: Some paragraphs are very long and could be broken up to improve readability and to better organize ideas.</p> <p>9. Technical language: While the use of technical terms is generally appropriate, some complex concepts could benefit from clearer explanations for a broader scientific audience.</p> <p>10. Proofreading: There are a few typographical errors that a careful proofreading would catch and</p>	
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<p>Minor REVISION comments</p> <p>Is language/English quality of the article suitable for scholarly communications?</p>		
<p>Optional/General comments</p>	<p>Based on my review of the manuscript, here are some potential gaps in the study that could be addressed:</p> <ol style="list-style-type: none">1. Limited environmental conditions: The study was conducted in a single location (Pantnagar, India) and over one growing season. This limits the generalizability of the results across different environments and years. Future studies could include multi-location trials over multiple years to assess genotype x environment interactions more comprehensively.2. Narrow genetic base: The study used 4 lines and 4 testers, which represents a relatively small genetic pool. Expanding the number of parental lines could provide a broader understanding of genetic diversity for heat tolerance in wheat.3. Focus on morphological traits: While the study analyzed important agronomic traits, it did not include physiological or biochemical parameters associated with heat tolerance. Including traits such as chlorophyll fluorescence, membrane stability, or antioxidant enzyme activity could provide deeper insights into heat stress mechanisms.4. Lack of molecular analysis: The study relies solely on phenotypic data. Incorporating molecular markers or gene expression analysis could help identify specific genes or QTLs associated with heat tolerance.5. Absence of yield stability analysis: The study does not include an analysis of yield stability across different heat stress levels. This information could be valuable for identifying consistently performing genotypes.6. Limited exploration of epistatic effects: While the study mentions non-additive genetic effects, it does not deeply explore epistatic interactions, which could be important in complex traits like heat tolerance.7. Lack of comparison with optimal conditions: The study focuses on late-sown conditions to simulate heat stress but does not provide a comparison with optimal sowing conditions. This comparison could help quantify the impact of heat stress on different genotypes.8. No economic analysis: The study does not include an economic assessment of the potential impact of using heat-tolerant varieties. This could be valuable for practical breeding programs.9. Limited discussion on breeding strategies: While the study provides genetic information, it could benefit from more detailed recommendations on how to utilize this information in breeding programs.10. Absence of validation in subsequent generations: The study is limited to F1 hybrids. Evaluating subsequent generations (F2, F3, etc.) could provide insights into the stability of heat tolerance traits across generations. <p>Addressing these gaps in future research could significantly enhance our understanding of heat tolerance in wheat and improve breeding strategies for developing climate-resilient varieties.</p>	

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PART 2:

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

Reviewer Details:

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