

Review Form 3

Journal Name:	Journal of Experimental Agriculture International
Manuscript Number:	Ms_JEAI_123711
Title of the Manuscript:	Assessment of terminal heat stress tolerance in doubled haploids derived from synthetic hexaploid wheat (Triticum aestivum L.) using genetic variability and PCA-based cluster analyses
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.	wheat is vital for developing climate-resilient varieties. By leveraging genetic variability and PCA-based cluster analyses, researchers can identify key traits for heat tolerance, enhancing breeding strategies. This approach helps stabilize yields in changing climates, ensuring food security and supporting farmers.	This manuscript is significant for the scientific community as it offers an in-depth analysis of doubled haploid lines derived from synthetic and hexaploid wheat germplasm, focusing on heat tolerance during critical reproductive stages. The study effectively combines phenotypic characterization with genetic variability analysis, providing insights into genotype-environment interactions under terminal heat stress. I appreciate this manuscript for its rigorous methodology and clear identification of superior clusters with promising agronomic traits. By highlighting potential germplasm for future breeding programs, this research contributes to enhancing wheat resilience in the face of climate change. Ultimately, it addresses pressing challenges in global food security.
Is the title of the article suitable? (If not please suggest an alternative title)	Yes	The title of the article is suitable as it clearly conveys the research focus on "terminal heat stress tolerance" in "doubled haploids derived from synthetic hexaploid wheat." It effectively highlights the methodologies used, including "genetic variability and PCA-based cluster analyses." Overall, it is informative and precise, making it relevant to the study's content.
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.	Yes	The abstract effectively summarizes the study's objectives, methods, and findings related to heat stress tolerance in wheat germplasm. However, it could benefit from clearer objectives, concise key findings, and a brief explanation of the methodologies used. Adding the broader implications of the research would enhance its relevance to food security and climate change.
Are subsections and structure of the manuscript appropriate?	Yes	The subsections and overall structure of the manuscript appear appropriate for conveying the research effectively. The organization facilitates a clear progression of ideas, beginning with an introduction that outlines the study's rationale and objectives. Each section,

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		including methodology, results, and discussion, is logically sequenced, making it easy for readers to follow the research process. However, it may be beneficial to ensure that each subsection has clear headings and that the transitions between sections are smooth to enhance readability. Additionally, if the manuscript includes a conclusion or implications section, it should succinctly summarize the key findings and their relevance to future research or practical applications in wheat breeding. Overall, maintaining a coherent structure will contribute to the manuscript's clarity and impact.
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.	It leverages genetic variability to identify stress-resistant traits and employs PCA-based cluster analyses to effectively group genotypes. This integrated approach enhances breeding strategies for developing resilient wheat varieties under climate stress, ensuring improved yield stability.	The manuscript demonstrates scientific correctness through its rigorous methodology, utilizing genetic variability analysis and principal component analysis (PCA) to evaluate heat stress tolerance in doubled haploid wheat lines. The selection of germplasm from synthetic and hexaploid wheats is well-justified for addressing terminal heat stress challenges. Additionally, the reliance on quantifiable phenotypic traits enhances the reliability of the findings. Overall, the research provides valuable insights that can inform future wheat breeding programs.
Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.	Plleases add some recent references	
Minor REVISION comments	Yes	
Is the language/English quality of the article suitable for scholarly communications?		
Optional/General 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?	(If yes, Kindly please write down the ethical issues here in details)	Comments have been incorporated in accordance with the reviewers' feedback.