

Review Form 1.7

Journal Name:	International Journal of Environment and Climate Change
Manuscript Number:	Ms_IJECC_102073
Title of the Manuscript:	Unravelling the Genetic Enigma: Exploring the Molecular Basis of Heterosis
Type of the Article	Review 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:

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PART 1: Review Comments

	<u>Reviewer's comment</u>	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>Compulsory REVISION comments</p> <ol style="list-style-type: none"> Is the manuscript important for scientific community? (Please write few sentences on this manuscript) Is the title of the article suitable? (If not please suggest an alternative title) Is the abstract of the article comprehensive? Are subsections and structure of the manuscript appropriate? Do you think the manuscript is scientifically correct? Are the references sufficient and recent? If you have suggestion of additional references, please mention in the review form. <p><u>(Apart from above mentioned 6 points, reviewers are free to provide additional suggestions/comments)</u></p>	<p>The article entitled Ms_IJECC_102073 Unravelling the Genetic Enigma: Exploring the Molecular Basis of Heterosis. The authors provide a comprehensive overview of the current understanding of the molecular mechanisms underlying heterosis. We delve into the intricate interplay of genetic factors and regulatory networks that contribute to the manifestation of heterosis. Genomic studies have revealed structural variations, such as rearrangements and copy number variations, which may play a crucial role in hybrid vigour. Furthermore, we explore the dynamic nature of gene expression patterns during hybridization, highlighting the activation of novel gene networks and the modulation of epigenetic mechanisms. Transcriptomic analyses have identified key genes and pathways associated with heterosis, shedding light on the intricate molecular interactions that drive the superior performance of hybrids. Additionally, we discuss the emerging role of small RNAs, transcription factors, and regulatory elements in orchestrating heterosis.</p> <p>I appreciated the Manuscript, but there are many technical, grammatical, and common mistakes in the article which should be corrected by the authors. Authors strictly follow the instructions and format of the respective Journal. After the correction of all the mistakes, the article could be considered for publication in the prestigious International Journal of Environment and Climate Change. Technical, grammatical, and common mistakes</p> <ul style="list-style-type: none"> ➤ Abstract; Revise it and make it clear. ➤ keywords write it alphabetically; Transcription Factors remove it. ➤ Please mention the Graphical abstract. ➤ Introduction, revise it and could be elaborated in terms of what other mechanism that has been used in previous or other related studies? ➤ In your discussion section, please link your empirical results with a broader and deeper literature review. ➤ Add the impact of current work on industry and future research. ➤ Why and how the said parameters were selected for this work? More specific details needed to be added with the use of the latest reference. ➤ For Figure, Table, and %, mentioned the same format throughout the manuscript. ➤ Explain in more detail. FUTURE SCOPE OF MOLECULAR HETEROSIS ➤ Mentioned heading and subheading for each section. ➤ Use Endnote or Mendeley for reference. The current format is not according to the prestigious journal. 12 than 21 than 27? So strange ➤ Explain the conclusion in more detail. <p>Cite the following references</p> <ul style="list-style-type: none"> ➤ https://doi.org/10.1016/j.envres.2023.115253 ➤ https://doi.org/10.1016/j.chemosphere.2023.137999. ➤ https://doi.org/10.1016/j.envres.2023.115429 	
<p>Minor REVISION comments</p> <ol style="list-style-type: none"> Is language/English quality of the article suitable for scholarly communications? 	<p>yes</p>	
<p>Optional/General comments</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>	

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