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| Journal Name: | [**Journal of Advances in Biology & Biotechnology**](https://journaljabb.com/index.php/JABB) |
| Manuscript Number: | **Ms\_JABB\_139625** |
| Title of the Manuscript: | **Analysis of Genetic Variability and Potential for Genetic Improvement in Sponge Gourd [Luffa cylindrica (L.) Roem.] through Heritability and Genetic Advance** |
| Type of the Article | **Manuscript** |

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| **PART 1: Comments** | | |
|  | **Reviewer’s comment**  **Artificial Intelligence (AI) generated or assisted review comments are strictly prohibited during peer review.** | **Author’s Feedback** (It is mandatory that authors should write his/her feedback here)  AI tools were not used in manuscript preparation or submission |
| **Please write a few sentences regarding the importance of this manuscript for the scientific community. A minimum of 3-4 sentences may be required for this part.** | This manuscript is of significant importance to the scientific and agricultural research community, particularly in the field of plant breeding and crop improvement. By evaluating 25 genotypes of sponge gourd (Luffa cylindrica), the study identifies key traits exhibiting high genetic variability, heritability and genetic advance, which are crucial for effective selection in breeding programs. The results offer a valuable genetic resource for the development of high-yielding and quality sponge gourd varieties, contributing to enhanced productivity and sustainability. Moreover, the findings address the gap in research on underutilized crops, supporting the  diversification of food systems and promoting food and nutritional security. | Addressing the research gap on underutilized crops. One of the key objectives of our study was to highlight the potential of these crops in diversifying food systems and enhancing food and nutritional security, especially in the face of climate change and resource limitations. |
| **Is the title of the article suitable?**  **(If not please suggest an alternative title)** | Yes | It is an accurate and suitable. |
| **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.** | **Suggestions for improvement:**   1. Add clarity to the methodology 2. Quantify the key results (where applicable) 3. Improve flow and clarity | 1. **Clarity in Methodology:** The Methodology section has been revised to provide greater detail and clarity, including a more structured description of experimental procedures, materials used, and data analysis methods.  2. **Quantification of Key Results:** Where applicable, key results have now been quantified to better support our conclusions and to provide more robust, data-driven insights.  3. **Improved Flow and Clarity:** The manuscript has been carefully edited to improve the logical flow and overall clarity of the content. Transitional statements and paragraph structures were refined to ensure better readability. |
| **Is the manuscript scientifically, correct? Please write here.** | Yes, the manuscript is scientifically correct. It adheres to standard agronomic and genetic research methods, presents statistically and biologically meaningful results and contributes valid insights for sponge gourd improvement. With a few enhancements in interpretation and contextual discussion, it can further improve its  scientific impact. | The manuscript scientifically sound and methodologically robust. In response to your suggestion, we have revised the Discussion section to enhance the interpretation of our findings and provide a deeper contextual analysis, especially in relation to current trends and challenges in sponge gourd improvement. These additions aim to strengthen the scientific impact and practical relevance of the study. We appreciate your insights and guidance in improving the manuscript further. |
| **Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.** | Yes, the references are sufficient (25) and mostly recent, especially for a regional study. | None |
| **Is the language/English quality of the article suitable for scholarly communications?** | The language of the manuscript is mostly understandable and technically appropriate, but it does require moderate revision to meet the standards of scholarly communication. | We have carefully revised the text to improve grammatical accuracy, clarity, and overall readability in order to meet the standards of scholarly communication. Edits have been made throughout the manuscript to enhance the precision and flow of the language, ensuring that the content is conveyed more effectively to the scientific community. We appreciate your guidance in helping us strengthen the quality of the manuscript. |
| **Optional/General** comments | The manuscript titled "Analysis of Genetic Variability and Potential for Genetic Improvement in Sponge Gourd [Luffa cylindrica (L.) Roem.] through Heritability and Genetic Advance" presents a scientifically sound and relevant study focusing on the genetic variability, heritability and genetic gain in sponge gourd genotypes. The work holds considerable significance, especially in the context of underutilized crops that have economic, nutritional and ecological value. | yes |

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| **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)* | No |