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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) |
| **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. |  |
| **Is the title of the article suitable?**  **(If not please suggest an alternative title)** | Yes |  |
| **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 |  |
| **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. |  |
| **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. |  |
| **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. |  |
| **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. |  |

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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)* |  |

**Reviewer details:**

**Ram Bansal, Medicaps University, India**