|  |  |
| --- | --- |
|  | |
| Journal Name: | [**International Journal of Plant & Soil Science**](https://journalijpss.com/index.php/IJPSS) |
| Manuscript Number: | **Ms\_IJPSS\_140898** |
| Title of the Manuscript: | **Study of Combining Ability and gene action for seed yield in Sunflower (Helianthus annuus L.) using line x tester analysis.** |
| Type of the Article | **Original Research Article** |

|  |  |  |
| --- | --- | --- |
| 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 contributes significantly to the understanding of non-additive gene action in sunflower and validates the role of specific parental lines and hybrid combinations in yield improvement. Its findings are of interest to breeders seeking to exploit heterosis and develop superior sunflower hybrids. The work also exemplifies the successful implementation of line × tester design in applied crop improvement. | This manuscript is crucial for advancing sunflower breeding strategies, as it identifies the genetic mechanisms additive and non-additive gene actions that influence seed yield and related traits. By evaluating general and specific combining abilities, the study helps breeders select optimal parent lines and hybrid combinations to exploit heterosis effectively. |
| **Is the title of the article suitable?**  **(If not please suggest an alternative title)** | Yes; However, capitalize consistently author should consult previously published articles in the journal. Correction was given in the manuscript document | 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. | Yes, Abstract should be structured as per author guidelines into, Aims: Study design; Methodology; Results; Conclusion. Correction was marked in the manuscript | yes |
| Is the manuscript scientifically, correct? Please write here. | Yes, The experimental design, statistical analyses (ANOVA and line × tester), and interpretation of GCA and SCA effects are appropriate. The study demonstrates clear genetic variance and confirms the role of both additive and non-additive effects | yes |
| **Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.** | The manuscript includes many recent and relevant citations (2019–2023), especially from Indian and international oilseed research journals. References listed at the end of the manuscript and numbered in the order that they appear in the text. Add DOI whenever it is possible . | yes |
| Is the language/English quality of the article suitable for scholarly communications? | Yes; Changes were suggested using track changes to increase clarity and readability | yes |
| Optional/General comments |  Report P-values correctly (e.g., *P* = .04, not *P* < .05 unless *P* < .001).   Mention standard checks used in the Results.   Improve figure/table captions and ensure tables are discussed before appearing. | Already done |

|  |  |  |
| --- | --- | --- |
| **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)* | N0 |