

Review Form 1.7

Journal Name:	International Journal of Plant & Soil Science
Manuscript Number:	Ms_IJPSS_110467
Title of the Manuscript:	Exploration of Diallel Method for Assessing Heterosis and Combining Ability in Maize (Zea mays L.).
Type of the Article	Original Research Article

PART 1: Review Comments

	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)
Compulsory REVISION comments 1. Is the manuscript important for scientific community? (Please write few sentences on this manuscript) 2. Is the title of the article suitable? (If not please suggest an alternative title) 3. Is the abstract of the article comprehensive? 4. Are subsections and structure of the manuscript appropriate? 5. Do you think the manuscript is scientifically correct? 6. Are the references sufficient and recent? If you have suggestion of additional references, please mention in the review form. (Apart from above mentioned 6 points, reviewers are free to provide additional suggestions/comments)	Yes, the manuscript has a scientific importance. Yes Yes Yes It is advised to add more references in the introduction section.	There is no error is the paper for reviewing.
Minor REVISION comments 1. Is language/English quality of the article suitable for scholarly communications?	Yes	ok
Optional/General comments	There are minor corrections in the manuscript. There are some grammatical mistakes. References should be checked thoroughly as the Journal name is not in italics, in some references volume number and page number are missing, botanical name in reference section are not in italics . The paper needs minor revision especially the reference section. After that the paper should be accepted	Thanks to fast processes.

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>	<p>Study was conducted. The selection of seven maize genotypes was based on quantitative traits, growth duration, and suitability for the Kharif season, and yield. These genotypes were then crossed in a half diallel mating design, resulting in the production of 21 single-cross hybrids. The cultivation of these hybrids, along with the seven parental inbred lines, totaling 28 genotypes, followed a randomized block design. Each plot had dimensions of 23.10m by 1.0m and maintained a plant density of 240 plants per plot. To assess the quantitative traits, observations were recorded from five randomly selected plants per plot. The analysis of variance indicated significant genetic variability among the genotypes, particularly in traits such as days to 50% germination, silking, maturity, plant height, number of leaves per plant, biological yield, cob ear weight, number of rows per cob, and number of seeds per cob. This variability was attributed to both additive and non-additive genetic components, as evident from significant variances due to general combining ability (GCA) and specific combining ability (SCA). The GCA/SCA ratio was less than unity for most traits. For most traits, parental lines P1, P2, and P4 exhibited high GCA effects. Additionally, F1 hybrids P4x P3, P3x P1, P5x P3, and P7 x P5 were found to be desirable in terms of yield and related traits. In terms of yield, seven crosses (P1 x P6, P2 x P7, P2x P5, P1 x P2, P3x P4, P5 x P7, and P3 x P5) outperformed the check hybrid, demonstrating their potential for future breeding programs aimed at enhancing maize yield.</p>