

Review Form 1.7

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| Journal Name: | Current Journal of Applied Science and Technology |
| Manuscript Number: | Ms_CJAST_101860 |
| Title of the Manuscript: | Genetic variability and diversity analysis for yield and its associated traits in chickpea (Cicer arietinum L.) |
| Type of the Article | Research 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:

(<https://www.journalcjast.com/index.php/CJAST/editorial-policy>)

Review Form 1.7

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) |
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| <p>Compulsory REVISION comments</p> <p>1. Is the manuscript important for scientific community? (Please write few sentences on this manuscript)</p> <p>2. Is the title of the article suitable? (If not please suggest an alternative title)</p> <p>3. Is the abstract of the article comprehensive?</p> <p>4. Are subsections and structure of the manuscript appropriate?</p> <p>5. Do you think the manuscript is scientifically correct?</p> | <ul style="list-style-type: none"> • Chickpea, also known as Bengal gram, Egyptian pea, Garbanzo or Garbanzo bean, is a self-pollinated, annual diploid ($2n = 2x = 16$) species, with a genome size of 738 Mb which aids in increasing soil fertility by biological nitrogen fixation. • The current investigation was aimed to investigate genetic variability, heritability and genetic advance, correlation, direct and indirect effects and genetic divergence (D^2 analysis) among yield and its attributing traits. • It is highly nutritious encompassing of vitamins, minerals, and vital amino acids, including lysine, methionine, threonine, valine, and leucine, as well as β-carotene, calcium, phosphorus magnesium, and potassium. <ul style="list-style-type: none"> ▪ Yes, the title of the manuscript is appropriate enough. ▪ Yes, the abstract written is comprehensive. • Yes, they are appropriate enough addressing various significant aspects and illustrating the general sub-sections viz., Abstract, Introduction, Materials and Methods, Results and Discussion, and Conclusion as well. <ul style="list-style-type: none"> ▪ In addition, the statistical analysis has been well exemplified with the observations recorded and documented in the Tabular forms in an eloquent manner. ▪ The data have been concisely documented in quite a many tabular forms. ▪ Excellent presentation of the figures showing the “Phenotypic path diagram and Genotypic path diagram for 10 characters in chickpea genotypes”; “Cluster diagram of diverse chickpea genotypes based on D^2 analysis”, as well as “Percent contribution of traits in cluster” are vivid and striking. ○ The previous findings chronicled that the productivity of chickpea is condensed by abiotic factors viz, drought; heat, excessive salt and cold and biotic factors including Ascochyta blight, Fusarium wilt and Helicoverpa. ○ Hence, the elementary information on the existence of genetic variability in a population and the relationship between different traits, besides the assessment of chief characteristics and their interrelatedness is imperative in developing selection criteria for taming existing genotypes and for any fruitful plant breeding programme has been elucidated in the prior reports. ○ Thus, the research concluded that the genotypes belonging to the cluster studied may be | |

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| <p>6. Are the references sufficient and recent? If you have suggestion of additional references, please mention in the review form.</p> <p><u>(Apart from above mentioned 6 points, reviewers are free to provide additional suggestions/comments)</u></p> | <p>used as parents to produce transgressive segregants.</p> <ul style="list-style-type: none"> The references cited are richly adequate and recent enough. | |
| <p>Minor REVISION comments</p> <p>1. Is language/English quality of the article suitable for scholarly communications?</p> | <ul style="list-style-type: none"> Pg. no.2, 4th line: Chickpea productivity is reduced- add a missing verb. Pg. no.2, 2nd paragraph, 6th line: while the phenotypic co-efficient measures the role of the environment- add the required articles. Pg.no. 7, 1st line: on the Analysis of variance it is concluded that a significant difference- Correct the article's usage. <ul style="list-style-type: none"> The usage of the English language is appropriate and fairly suitable for scholarly communications. | |
| <p>Optional/General comments</p> | <ul style="list-style-type: none"> The genotypic coefficient of variation estimates the heritable variability, while the phenotypic coefficient measures the role of the environment on the genotype. Path coefficient analysis helps to determine the direct effect of traits and their indirect effects on other traits. A directional model based on seed yield and its components that provides the chance for selection is used in correlation analysis to evaluate the mutual relationship between two parameters. Mahalanobis's D^2 statistics is a powerful tool in quantifying the degree of variability at the genotype level. Overall, the manuscript have been laconically authored, remarkable, and well-presented with elegant presentation of the related statistical observations and data that have been concisely documented in the form of fine Tabular forms. The figures shown are exemplary. | |

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) |
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| Are there ethical issues in this manuscript? | <i>(If yes, Kindly please write down the ethical issues here in details)</i> | |

Reviewer Details:

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| Name: | Asma Jabeen |
| Department, University & Country | Indian Institute of Rice Research, Osmania University, India |