Review Form 3

Journal Name:	**International Journal of Plant & Soil Science**
Manuscript Number:	**Ms_IJPSS_122204**
Title of the Manuscript:	**Influence of different levels of hydrogel on root nodulation in Chickpea (Cicer arietinum L.)**
Type of the Article	**Research Article**

Review Form 3

PART 1: Review Comments

Compulsory REVISION comments	**Reviewer's comment**	**Author's Feedback** *(Please correct the manuscript and highlight that part in the manuscript. 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. Why do you like (or dislike) this manuscript? A minimum of 3-4 sentences may be required for this part.	**1. This manuscript offers valuable insights into the effects of hydrogel application on chickpea root nodulation, which is crucial for sustainable agriculture. The study's strength lies in its comprehensive approach, examining nodule formation across different growth stages and over two growing seasons. The findings highlight the potential of hydrogel to enhance water availability and optimize nitrogen fixation in chickpea crops, particularly in water-scarce conditions. This research contributes to our understanding of how to improve soil fertility and crop productivity in an environmentally friendly manner, which is increasingly important in the face of climate change and the need for sustainable farming practices. The detailed methodology and clear presentation of results make this study a useful reference for researchers and practitioners in the fields of agronomy and soil science.** **2.**	
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.	**The abstract is generally comprehensive and provides a good overview of the study. However, there are a few areas where it could be improved:** **Suggestions for additions:** **Include the specific hydrogel levels used in the study (e.g., 25%, 50%, 75%, 100%). Mention the statistical analysis method used (e.g., Fisher's ANOVA and LSD test). Add a brief explanation of why hydrogel application leads to improved nodulation (e.g., by maintaining soil moisture). Include a quantitative result to illustrate the magnitude of the effect (e.g., percentage increase in nodules for the best treatment compared to control). Mention any limitations of the study or areas for future research.**	
Are subsections and structure of the manuscript appropriate?	**The manuscript's structure follows a standard scientific format, which is appropriate for this type of research article. However, there are some areas where the structure could be improved:** **1. Add a "Materials and Methods" section:** **• While the manuscript does have this section, it should be more clearly delineated and expanded.**	
Please write a few sentences regarding the scientific correctness of this manuscript. Why do you think that this manuscript is scientifically robust and technically sound? A minimum of 3-4 sentences may be required for this part.	**1. his manuscript demonstrates scientific robustness and technical soundness in several key aspects: 2. Experimental Design: The study employs a randomized block design with multiple treatments and replications, which is a statistically valid approach for agricultural field trials. This design helps to control for environmental variability and ensures the reliability of the results. 3. Methodology: The methods are clearly described, including the specific measurements taken (number of nodules, active nodules, and inactive nodules) and the timing of these observations (30, 60, 90 DAS, and at maturity). This level of detail allows for reproducibility, a crucial aspect of scientific research. 4. Statistical Analysis: The use of Fisher's ANOVA technique and least significance difference (LSD) test at 5% probability level is appropriate for analyzing the differences among treatment means in this type of agricultural experiment. This statistical approach provides a solid foundation for interpreting the results. 5. Consistency of Results: The study was conducted over two growing seasons (2019-**	

	2020 and 2021-2022), and the results were consistent across both years. This replication over time strengthens the reliability of the findings and reduces the likelihood that the observed effects were due to chance or seasonal anomalies.	
Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form. **-**	**Yes.**	
Minor REVISION comments **Is the language/English quality of the article suitable for scholarly communications?**	1. The language and English quality of the article require significant improvement to meet the standards for scholarly communication. While the overall content and structure are present, there are several issues that need to be addressed: 2. 3. Grammar and Syntax: There are numerous grammatical errors and awkward sentence structures throughout the text. For example, in the abstract: "The experimental design was a randomized block design, featuring four levels of hydrogel and two levels of irrigation, with treatments replicated thrice." This sentence is redundant and could be more concise. 4. Consistency: There are inconsistencies in formatting and style, such as varying use of spaces after punctuation and inconsistent capitalization (e.g., "Rabi" vs "rabi"). 5. Technical Language: While the technical content is generally sound, the use of scientific terminology is sometimes imprecise or awkward. For instance, "de novo formed organs" could be stated more clearly. 6. Punctuation: There are several instances of missing or misplaced commas, particularly in complex sentences.	
Optional/General comments		

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:

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