Review Form 1.7

Journal Name:	**International Journal of Environment and Climate Change**
Manuscript Number:	**Ms_IJECC_106997**
Title of the Manuscript:	**Nutrient uptake and physico-chemical properties of soil as affected by application of vermicompost, biofertilizers and inorganic fertilizers in chickpea (Cicer arietinum L.)**
Type of the Article	**Original Research Article**

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)*
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)**	1. Yes. The article titled "Nutrient uptake and physico-chemical properties of soil as affected by application of vermicompost, biofertilizers, and inorganic fertilizers in chickpea (Cicer arietinum L.)" explores how different fertilizers, including vermicompost, biofertilizers, and inorganic fertilizers, impact the growth of chickpea plants and the quality of the soil they are grown in. The study aims to compare these fertilization methods and their effects on nutrient absorption by the plants and the physical and chemical properties of the soil. This research has the potential to provide valuable insights for optimizing chickpea cultivation practices and enhancing soil health in agricultural settings. 2. There is a need to modify or rephrase the title due to the detection of significant similarity in this title, except for the terms 'vermicompost,' 'biofertilizers,' and 'chickpea.". 3. The abstract describes a field trial conducted in the Rabi 2020-21 season to examine the effects of different organic and inorganic nutrient sources on chickpea farming and soil quality at MMU Sadopur, Haryana. It found that the treatment involving 3 t/ha vermicompost, Rhizobium, and PSB (phosphate-solubilizing bacteria) resulted in the highest levels of organic carbon, electrical conductivity, soil porosity and available nutrients (N, P, K). Chickpea seeds and stover from this treatment also had the highest nutrient content. Financially, the best returns were seen in plots treated with 50% and 75% of the recommended chemical fertilizer dose combined with Rhizobium and PSB, both achieving benefit-cost ratios of 3.2 and 3.1, respectively. However, it's important to note that the seed yield in the integrated nutrient management approach was similar to the recommended chemical fertilizers. The abstract could be improved by organizing the information more clearly, providing context for the study's significance, discussing statistical significance and offering conclusions or any future practical recommendations. 4. Introduction: The introduction has some weaknesses that need to change. Firstly, it lacks proper citations to support the factual claims made about chickpea cultivation and its statistics, which would enhance the credibility of the information. Secondly, it doesn't clearly articulate the research gap or the specific questions the study seeks to answer, leaving the purpose somewhat unclear. The introduction covers a broad range of topics, including cultivation, nutritional content, challenges, and fertilization methods and could benefit from a more concise and structured organization. It also transitions abruptly from discussing challenges to the investigation of fertilization methods, needing a smoother transition. ***Materials and Methods***: this section outlines the research setup. The experiment took place during Rabi 2020-21 at the Research Field of the Department of Agriculture, Maharishi Markandeshwar University, Sadopur, Ambala, using a randomized block design with seven treatments. These treatments included different fertilizer combinations and vermicompost. Chickpea variety HC-5 was sown in plots, and yield data were recorded. Soil samples were collected and analyzed for their physical and chemical properties. Statistical analysis was performed, and the economic aspects of each	

	treatment were assessed based on market prices and the cost of cultivation. Nevertheless, there are some weaknesses in this section include the need for more detail on the specific methods used for data collection and analysis. Also, the paragraph could be simplified by stating that the study used different treatments on chickpea crops and collected data on yield, soil properties and economics, without going into specific details. ***Conclusion***: The conclusion lacks of specific quantitative data to support the findings, making it difficult to assess the extent of improvement achieved. Also, it doesn't consider potential environmental impacts or long-term sustainability aspects, such as the impact of repeated vermicompost use on soil health. Furthermore, the study doesn't mention potential challenges or drawbacks of using vermicompost, Rhizobium, and PSB, which are essential to make a well-rounded decision. Lastly, generalizing the conclusion without accounting for variations in soil types, climates, and regional factors could limit its applicability in diverse agricultural settings. 5. Yes, if the authors do the changes according to the suggested comments. 6. No. In the paper, there are a total of 12 references only. To enhance the paper's credibility and relevance, it is recommended to include at least 5 additional, more recent references (recent 5 years).	
Minor REVISION comments **1. Is language/English quality of the article suitable for scholarly communications?**	Moderate	
Optional/General comments	Need to do the changes according to the suggested 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)*	

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