Review Form 1.7

Journal Name:	**International Journal of Plant & Soil Science**
Manuscript Number:	**Ms_IJPSS_107986**
Title of the Manuscript:	**A Comprehensive Review of the Impacts of Regular, Long-Term Application of Chemical Fertilizers and Farmyard Manure on Soil Fertility**
Type of the Article	**Review Article**

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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 a few sentences on this manuscript)	**1.** Studying the long-term use of chemical fertilizers and farmyard manures is crucial for sustainable agriculture, environmental protection, economic viability, and food security. It helps us make informed decisions about agricultural practices that balance the need for increased food production with the preservation of natural resources and ecosystems. In this review, the author highlights the importance of long-term fertilizer experiments in various dimensions, including environmental sustainability and soil health. As the country faces the challenge of feeding a growing population, the ultimate objective of these research activities is to achieve higher grain production per unit area, per unit time, and per unit input, all while preserving the integrity of the soil environment and soil health.	
2. Is the title of the article suitable? (If not please suggest an alternative title)	**2.** I would suggest the following alternative title which, in my opinion, is more appealing: "*Sustaining Soil Fertility: Exploring the Long-Term Effects of Chemical Fertilizers and Farmyard Manure Application*".	
3. Is the abstract of the article comprehensive?	**3.** The abstract is clearly written. However, two-thirds of it only provides generic information on long-term fertilizer and manure experiments instead of using this space to describe the state of the art of the situation.	
4. Are subsections and structure of the manuscript appropriate?	**4.** Yes, the manuscript is structured correctly. However, an important section describing the issues encountered in the LTFE is missing. Indeed, the long-term application of chemical fertilizers and farmyard manure on soil fertility can raise several issues and challenges. To address these issues, adopting sustainable agricultural practices that balance nutrient inputs, promote soil health, minimize environmental impacts, and ensure long-term agricultural productivity is essential.	
5. Do you think the manuscript is scientifically correct?	**5.** Yes; this review reports (some, not all) information on LTFE that appeared in the literature.	
6. Are the references sufficient and recent? If you have suggestions for additional references, please mention them in the review form.	**6.** *The following works may be added to the list of references*. [1] Hemalatha, K, Radhika, Maragatham, S and Katharine .2013. Influence of Long-Term Fertilization on Soil Fertility - A Review Department of Soil Science and Agricultural Chemistry, Tamil Nadu Agricultural University, Coimbatore – 3, Tamil Nadu, India Research & Reviews: Journal of Agriculture and Allied Sciences [2] Tiwari, A, Dwivedi, A. K. and Dikshit, P.R. 2002. Journal of Indian Society of Soil Sciences (JISSS) 50, 472-475 [3] Vyas, MD, Jain AK, Tiwari RJ. 2003. Long-term effect of micronutrients and FYM on yield of and nutrient uptake by soybean on a Typic Chromustert. Journal of Indian Social and Soil Science; 51:45-47. [4] Wright SS., 1989. Fertilizers and Soil Acidity Mosaic Fertilizer Technology Research Centre – April Source: Fertiliser Technology Research Centre, The University of Adelaide, Australia [5] Yan Jun-Hua, Guo-Yi Zhou, De-Qiang Zhang, Guo-Wei Chu (2007) Changes of Soil Water, Organic Matter, and Exchangeable Cations Along a Forest Successional Gradient in Southern China. Pedosphere 17(3), 397-405. [6] Zhang XY, Sui XY, Zhang XD, Meng K, Herbert SJ (2007) Spatial variability of nutrient properties in the black soil of northeast China. Pedosphere 17, 19-29.	
7. Apart from above mentioned 6 points, reviewers are free to provide additional suggestions/comments.	**7a.** Continued and long-term use of chemical fertilizers and manures in soil may alter the physico-chemical and biological properties of the soil. Some manuscripts that appeared in the literature advised the farmers and other stakeholders to use organic fertilizers and integrated soil fertility management rather than continuous chemical fertilizers. The author is asked to provide his/her opinion about. **7b.** Some chemical fertilizers, particularly ammonium-based ones, can contribute to soil acidification over the long term. This can decrease soil pH and negatively affect nutrient availability	

	and microbial activity. The author is asked to mention this important point. **7c.** Another important aspect not discussed in this work is the reduced soil microbial activity. Indeed, it is known that prolonged use of chemical fertilizers can alter the composition of soil microbial communities. Some microbes essential for nutrient cycling and organic matter decomposition may decline, impacting soil health. Even in this case, the author is asked to provide his/her comments about. **7d.** Finally, another aspect that deserves attention is that over time, excessive application of specific nutrients can lead to imbalances in the soil. For example, excessive nitrogen application can lead to phosphorus and potassium deficiencies and disrupt the overall nutrient profile. Furthermore, heavy reliance on chemical fertilizers may discourage the incorporation of organic matter into the soil. Over time, this can lead to a reduction in soil organic carbon, affecting soil structure, water retention, and microbial diversity. In my opinion, the author should include, albeit briefly, a section specially dedicated to the delicate issues set out above.	
Minor REVISION comments **1. Is language/English quality of the article suitable for scholarly communications?**	**1.** English should be double-checked; very few numbers of typos have been detected.	
Optional/General comments	The vulnerable point of this review is that the author did not mention the main issues encountered in the LTFE. The suggestions in the above point 7. may help to fill this gap.	

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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