

Review of: "Assessment of Quality, Bacterial Population and Diversity of Irrigation Water in Selected Areas of Minna, Niger State, Nigeria"

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Potential competing interests: No potential competing interests to declare.

The chosen topic for this research work is relevant due to the importance of irrigation for sustainable agriculture in the global south. However, some pertinent issues, such as outdated references, discussing results out of context and poor language quality, as well as other problems outlined below, must be addressed.

Abstract

1. A sentence or two giving the background to the study is essential.
2. A statement about what the study sought to achieve is also critical before giving the methodology and results.
3. A concluding statement should be made regarding the major findings before recommendations are made for further studies.

Introduction

1. Most references cited in the introduction are dated, putting the reliability of the study into question.
2. Major statements in the introduction forming the basis for the study are not referenced, giving room for speculation, and this puts the authenticity of the statements and hence the research work into question.

Aim and Objectives

1. I suggest that the "Standard for Irrigation Water" table placed in this section should be placed at the appropriate segment.

Methodology

1. "Soil, Water, and Vegetation Description" (provide reference)
2. Statement under the section "Treatment and Experimental Design" is not clear.
3. No need to describe Gram Staining in full.

Results and Discussion

1. I suggest that, in order to understand whether the objectives were achieved or not, the results and discussions must be made vis-a-vis the objectives stated and not just presenting the results and discussing them.

2. Check the font types and sizes used in the entire document.
3. Check the use of “0” instead of “O” in the entire document, especially in the formulas and symbols.
4. Be consistent with the footnotes of your tables.
5. I suggest that the discussion of results in all key indices should be done in comparison to the other study sites; this will enable a more comprehensive understanding of the study.
6. Comparison of this study to other published works is weak.
7. Possible reasons must be attributed to why stated levels were obtained for the measured parameters.

Conclusions

1. Refer to the findings without mentioning the table numbers or any references.
2. The research work did not assess the remediation capacities of some selected bacterial species. Further studies should be suggested based on the results of your research work. Why this suggestion for further studies? “Further studies should therefore be carried out to establish the potentials of *Bacillus subtilis* in the bioremediation of Chanchaga water.”
3. Revise the entire concluding statement based on your findings and suggest future prospects.