Review of: "Synthesis, Characterization and Ameliorative Effect of Iron Oxide Nanoparticles on Saline-Stressed Zea Mays"

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Potential competing interests: No potential competing interests to declare.

Comment

To

The Editor

Thank you for giving me the opportunity to review this article. I have read the article "Synthesis, Characterization, and Ameliorative Effect of Iron Oxide Nanoparticles on Saline-Stressed Zea Mays," and it looks well-constructed. It clearly conveys the main components of the study: the synthesis and characterization of iron oxide nanoparticles and their potential ameliorative effects on Zea Mays under saline stress conditions. If this title accurately reflects the focus and scope of your research, it should serve its purpose effectively. However, the following comments need to be addressed.

Comments

1. Plant metabolism and physiology are altered because of salt buildup in the soil. What is the detailed mechanism behind this phenomenon?
2. Novelty of the work is not elaborated in the introduction section; the author must emphasize the purpose of the article.
3. In Fig. 3, mark the particles' dimensions in the figure showing the appropriate scale.
4. In Fig. 5, make an origin plot with appropriate notation of the phases present in the composite.
5. These ROS can damage plants' DNA, lipids, and proteins, among other biological constituents. How does the salt uptake overwhelm the activities of antioxidant enzymes?
6. Supplementary file FTIR should be added to the manuscript with an origin plot.
7. Authors should provide an FE-SEM image of the nanoparticles.
8. Abstract should be more elaborative in a concise manner.
9. Why nanoparticles are preferred instead of other conventional methods of growing soil fertility. Since nanoparticles can cause health hazards, they may lead to infertile land due to chemical reactions that can be detrimental to the environment.
10. The English language of the manuscript should improve.
11. The synthesis of FeONPs from Diodella sarmentosa crude extract seems well-described, following established

methods. However, providing more information about the examination techniques and results would strengthen the overall understanding of the experiment.

12. The sterilization of Zea mays grains and the preparation of soil seem to follow standard procedures for ensuring a controlled and contaminant-free environment for plant growth. However, additional details on the experimental design, especially regarding the purpose of the different pots, would enhance the overall understanding of the study.