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

Masoud Salavati-Niasari[1]

1 University of Kashan

Potential competing interests: No potential competing interests to declare.

The manuscript entitled "**Synthesis, Characterization and Ameliorative Effect of Iron Oxide Nanoparticles on Saline-Stressed Zea Mays**" was reviewed. In this study, the ameliorative effects of the biosynthesized FeONPs on the saline-stressed Zea mays were assessed. This manuscript can be accepted for publishing, but I have some major remarks before it can be publishable.

1. Make sure all abbreviations are written out in full the first time they are used. This is particularly important in the abstract and in the conclusions, but work through the entire ms carefully from this perspective. **For example,** acronym all the experimental techniques should be introduced the first time in the text.

2. Design the Abstract to succinctly explain: Hypothesis, Experiments and Findings.

3. The idea of the research seems to be interesting, but the set goals are not achieved. What the main significance of the paper in comparison is of relates published works?

4. Authors have claimed “Because of their unique features, nanoparticles (NPs) have multiple novel applications in several disciplines of science.” I have read and evaluated the manuscript, and in my opinion, the submission does not yet sufficiently justify publication. The whole generalization for this paper should be given in the introduction. Discuss the shortcomings of previous work and the gaps and how this work intends to fill those gaps. Related references should be cited:

- Arabian Journal of Chemistry, 16 (2023) 105020.- Fuel, 351 (2023) 128885. Materials Research Bulletin 48 (4) (2013) 1660-1667; international journal of hydrogen energy 42 (39) (2017) 24846-24860; Polyhedron 28 (14) (2009) 3005-3009; Journal of Molecular Liquids 242 (2017) 447-455; Journal of alloys and compounds 617 (2014) 627-632; Diamond and Related Materials 79 (2017) 133-144;Polyhedron 28 (14) (2009) 3005-3009

5. "XRD analysis" needs reconsideration and rewriting in order to improve the quality of the paper. It would be more appropriate if the authors validated with crystal structures which can emphasis the standard of the manuscript.

6. I suggest estimating crystallite size by Scherrer and Williamson-Hall models and compare.

7. In its current state, the level of English throughout the manuscript needs language polishing. Please check the

manuscript and refine the language carefully.

8. The lattice structures of the samples should be characterized by Raman analysis.

9. Compare this work with previous and similar research in terms of application.

10. The authors should write the manuscript in-depth, step by step. Every datum should have a discussion and conclusion beyond simple description. Authors should provide the BET-BJH analysis of the synthesized samples. Explain the effective parameters that increase the yield of reactions?

I recommend this work for publication after the above-mentioned revisions.