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

SWETHASREE Swethasree[1]

1 Acharya N. G. Ranga Agricultural University

Potential competing interests: No potential competing interests to declare.

Manuscript Title: Synthesis, Characterization and Ameliorative Effect of Iron Oxide Nanoparticles on Saline-Stressed*Zea Mays*

1. **Abstract**:

- Mention concentration of FeONPs used for foliar application
- Novelty of the work should be mentioned clearly in the Abstract

2. Introduction :

- Introduction is comprehensive.
- Check the manuscript for grammatical and language modifications.
- In the first paragraph, According to estimates from the Food and Agriculture Organization (FAO), there is a need to produce 60% more food by 2050 in order to feed the 9.3 billion people that inhabit the earth **(Add reference) .** Around 62 million hectares, or 20% of all arable land **(Add reference)**
- In the fourth paragraph, In agriculture, nanoparticles increase crop productivity by improving plant nutrition concentration and water consumption efficiency, as well as crop protection against pests and diseases **(Quote few crops in specific with references)**
- The introduction can be enhanced with a more specific focus on iron nanoparticles and their role in addressing stress.

3. Materials and Methods

- The concentrations of the 5 mL foliar applications of the FeONP solution (1: 10 g/ml of the FeONP to distilled water) , why?
- Did you conduct any pilot study to standardize FeONP concentration?
- Why did the author use (1:10 (g/ml) bulk $FeCl_3.6H_2O$ solution to distilled water) as a comparison? Compared with the regular $FeCl_3.6H_2O$-based fertilizer, what is the advantage of the FeONP concentration ?
- What is the zeta potential of FeONP ? Please add the information to the manuscript.
- Mention the models of all instruments used. Too lengthy and unnecessary information is given.
- **4. Results**

- Resolution of images is very poor and should be improved.
- The FTIR and associated functional groups discussion is yet to be improved.
- Supplementary figures captions are mis-spelled.
- References should be in format.

The article should be accepted after these corrections.