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.

Review Results

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

The following are the findings that the authors need to consider for improvement of this manuscript in the future:

1. The authors present different data on population in the same year (2050), namely **9.7** billion and **9.3** billion, (please check the data and include the reference where the data comes from).
2. The authors state that: Around 62 million hectares, or 20% of all arable land, are believed to be affected by salinity at the moment, and this number is projected to keep rising daily. (This statement requires an explanation of the area in question and the source of the data (reference)).
3. The author states that NPs are harmful to plants (if this is the case, what is the reason for using a nano-sized iron oxide in this research?).
4. Authors' statement: A 200 mL aqueous solution containing five grams of the pulverized dried leaves was **heated to 100°C for 1 hour**. The **solution was heated**, filtered, and evaporated until it was completely dry… (please clarify the meaning of these two sentences)
5. Scherrer equation was not appropriately written (please check)
6. Authors' statement: Similarly, each seedling in pot E also received a 5 ml foliar application of a **bulk solution of FeCl3 .6H2O (1:10 (g/ml) bulk FeCl3 .6H2O solution to distilled water**) for 10 days (This sentence is quite confusing. In addition, it is necessary to explain the purpose of using $FeCl_3$ while the aim of the research was to study the effect of FeO nanoparticles)
7. Authors' statement: Other observations made were the weight of the **plumule (seedling)—fresh and dry weight—color**, as well as the appearance of the leaf area (please revise the writing)
8. The FTIR spectroscopic data presented are very confusing, and this part is one of the weak points of the manuscript. It is stated that the FTIR characterization was conducted for the synthesized Fe nanoparticles; however, the functional groups listed in the manuscript are not related to Fe nanoparticles, but to organics. It should also be emphasized that there is a need to explain the relationship between the detected functional groups and the research objectives.

Considering the findings above, it is recommended that this manuscript requires major and comprehensive revision so that it can be considered for publication.