

Comment on soil-2021-94

Anonymous Referee #1

Referee comment on "Reusing Fe water treatment residual as a soil amendment to improve physical function and flood resilience" by Heather C. Kerr et al., SOIL Discuss., <https://doi.org/10.5194/soil-2021-94-RC1>, 2021

This manuscript presents an evaluation of Fe residual water as a soil amendment focussed on physical parameters. Some relevant indicators are given in this research and might contribute to the circular economy transition.

Although I do not have any specific comment regarding the methodology described, I would like to suggest some general comments to be considered in the next version of the manuscript.

1. The introduction is extensive. To my understanding, some of the parts are not necessary considering the topic of the manuscript, as they provided pretty detailed information about issues without a close relation to the use of WTRs to improve (or not) physical soil characteristics. So please, reduce this section maintaining the most relevant ones.

2. On the other hand, I missed more information or comparisons regarding Fe and Al. Unfortunately, there is no discussion about chemical (and/or biological) characteristics which would have improved the holistic approach mentioned several times through the text. Please, add some information about how the salts or compost might modify physical properties based on literature.

3. L274: Could you provide more information about the issues?

4. L 318-321: These lines should be included in the Materials and methods section.

5. L384: Any idea why that behaviour for the 30% compost?

6. The authors highlight the holistic approach of the manuscript. However, it is difficult to see that only assessing physical properties. Please, include in Results and discussion, a section where at least all the physical properties are discussed together.

7. Do the authors have any hint about how soil aggregates would change with the different applications?

8. Fig. 3. Are there any correlations? Trends? Please, include this information in the text or figures when possible.

9. Please, review the text and check little informal language issues (e.g. L293: isn't; L339: define the abbreviations GWC and VWC before using them, L 352-353 Elliot and Dempsey twice, etc.).