



EGUsphere, referee comment RC1
<https://doi.org/10.5194/egusphere-2022-1134-RC1>, 2022
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Comment on egusphere-2022-1134

Anonymous Referee #1

Referee comment on "The role of long-term mineral and manure fertilization on P species accumulation and phosphate-solubilizing microorganisms in paddy red soils" by Shuiqing Chen et al., EGU sphere, <https://doi.org/10.5194/egusphere-2022-1134-RC1>, 2022

Comments

This study not only investigated P species but also studied the relevant enzymes and microbes responsible for P transformation. It provides valuable information for understanding P cycling based on long-term fertilization management with different treatments. Thus, I would like to recommend it for publication after resolving the following problems:

- The hypothesis seemed to have no meaning. A different response is obvious, but what specific difference should be given? Line 83-85. Please revise accordingly.
- More information about the experimental field and design should be given since it is a long-term experiment (i.e., 38 years). Also, the previous studies involved in this research area should be properly cited. Line 93-99.
- So, the author only conducted sampling once? The sampling details should be given. Line 102.
- How many hours were used for determining moisture? Line 109-110
- The pretreatment method for OC determination should be given. Line 110.
- The solid-liquid ratio of soil extracts should be presented in line 112.
- The author should explain why they determine acid and alkaline phosphatase activity in this study. Also, what kind of phosphatase is produced by microbes? Line 124-126.
- In section 3 Results, there are many citations of others' studies. I think it is better to describe the result of this study, while the comparison or explanation of this study should be presented in the Discussion. Please check Section 3 thoroughly and make this section clear and concise.
- "bacteria" in line 372 should be "bacterial".
- Although the author proposed hypotheses in the introduction, they did not answer the hypothesis. In the Discussion, the author should mention whether they achieved the goal through this study.
- Conclusion should be more concise.

Please also note the supplement to this comment:

<https://egusphere.copernicus.org/preprints/2022/egusphere-2022-1134/egusphere-2022-1134-RC1-supplement.pdf>