EGUsphere, author comment AC6
https://doi.org/10.5194/egusphere-2022-469-AC6, 2022

Reply on RC6

Sara Niaz et al.

Author comment on "Wetting and drying cycles, organic amendments, and gypsum play a key role in structure formation and stability of sodic Vertisols" by Sara Niaz et al., EGUsphere, https://doi.org/10.5194/egusphere-2022-469-AC6, 2022

Reviewer 6

We are highly appreciative of the feedback given by the reviewer.

- The full form of PAM has now been incorporated in main text in line 28.
- Abbreviations have now been spelled out in the Introduction and Materials and methods
- The hypotheses have been revised as recommended by other reviewers.
- We presented Table 1 and 2 after the description of soils and organic amendments in the Materials and methods section, but we don't mind to move the tables to the Results section is the editor recommends.
- As explained for reviewer 2, we prefer to use the Tukey's HSD bar to avoid cluttering the graphs.
- The unpublished data at that time was under review and now has been published as Niaz et al., 2022 (https://doi.org/10.1016/j.geoderma.2022.116047).

Specific comments

- As explained for reviewer 2, topsoil layer has high OM and microbial activity and Vertisols are relatively uniform in texture and structure to depth
- Three core samples were collected for the measurement of bulk density for each site (Soil1 and Soil 2) while the bulk soil samples were collected with a shovel to 10 cm depth.
- The formula used for gypsum requirement has now been added in materials and methods section as advised by reviewer 5.
- Our apologies but we do not understand what is meant by "Amend "change" "
- The significance for each parameter is indicated in the text and figures by using the p (<0.05) value and Tukey's HSD bar in the figures. The error bars and letters to show significance were purposely removed as the line graphs got clumsier and were difficult to distinguish.
- In Fig. 1 the legends LMA, SMA, MIC and MIN have now been clearly explained in figure caption. The four different aggregate classes have been abbreviated as LMA, SMA, MIC and MIN which have been updated as "Large macro aggregates, small macroaggregates, microaggregates and silt+clay".