



EGUsphere, referee comment RC5
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Comment on egusphere-2022-469

Anonymous Referee #5

Referee 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., EGU sphere, <https://doi.org/10.5194/egusphere-2022-469-RC5>, 2022

Egusphere-2022-469 is an interesting work aiming to assess the impact of the combined effect of WD cycles and organic amendment and gypsum in soil stability and aggregation. The manuscript is well structured, and the objectives are identified clearly. However, the manuscript should be improved before acceptance mainly how the authors approach / addresses the research question.

Authors concluded that the results demonstrated that WD cycles can improve aggregate stability after addition of amendments – It is unclear to me if there is an overlap of the effect of the amendments over WD influence on soil stability. I would suggest review and reformulate the statements in which authors only include WD as main responsible of the increase of soil aggregation since after several WD cycles + amendment it is difficult to separate the concomitant impact of both at the same time.

I suggest to include in the introduction any explain concerning the selection of sodic Vertisols, apart from the lack of such studies in Vertisols (are these soils predominant in the region? Most of them dedicated to agriculture? Please link the information in lines 67-69 with an extra explanation about Vertisols and its characteristics. Please include a paragraph to close the introduction about the value / contribution of this study see lines 485 - 487

Did the authors carry out preincubation? Line 218 did the authors checked the effect of rapid slaking in the study soils?

Conclusions should be rewritten in the present form are a repetition of the results, please

include a synthesis of key points.

Minor corrections

Line 113 physical properties instead of behaviour

Line 119 water suspension

Line 176 include the formula or unfamiliarized readers