Hydrology and Earth System Sciences Discussions

Hydrol. Earth Syst. Sci. Discuss., editor comment EC1
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Comment on hess-2022-30

Carla Ferreira (Editor)

Editor comment on "Investigating the effects of herbaceous root types on the soil detachment process at the species level" by Jian-Fang Wang et al., Hydrol. Earth Syst. Sci. Discuss., https://doi.org/10.5194/hess-2022-30-EC1, 2022

Dear Prof. Yan-Fen Yang,

Thanks for submitting your manuscript to this SI. Understanding the impact of different herbaceous plants and plant densities on soil erosion by overland flow is relevant for the scientific community and stakeholders. However, major revisions should be performed before considering the possible publication of your manuscript. Please, consider the comments from both reviewers to improve your manuscript. Additionally, consider the following comments:

Specific comments:

The Introduction section is quite long and should be shortened.

In the Methodology section:

L200: why are you presenting accumulated temperature? (what is its meaning for the herbaceous species?).

L204: why the selection of this slope? Is it representative of the Loess Plateau?

L205: for how long were the tanks scoured?

L239: please, describe the sampling procedure

L221: not clear how the soil sampling did not disturb the overland flow and sediment measurements

L223: please, better explain the pretest performed

L224: so, only one experiment of 75 s was performed for each tank?

Section 2.3: it is not clear how long the overland flow and sediment measurements took

Section 2.5: why only analyzing the correlations between all variables? What about

differences between experiments with the two plants? What about differences with the different plant densities?

Section 3: the results of the correlation between variables should be indicated, and not only the level of significance. From the conclusions we can see that the correlations are rather low (mostly <0.5), although statistically significant. Thus, considering the very limited number of replications the correlations may be questionable.

Section 4: the limitations of the study must be clearly indicated and discussed

Section 4.3: it would be interesting to compare your results with results from similar studies with other herbaceous plants

Section 5: the findings are not new. A better link with the two types of plants can be more useful. Please, clearly identify the main findings/novelty of this study and the practical/real implications of this study.

Fig. 1: please, improve the legend to better describe the data shown, including the lines and dots

Fig. 2: please, improve the legend to better describe the meaning of the letters

Figs. 3 to 6: it may be interesting to draw different power functions for both plant types

Table 1 and 3: you may include the results of statistical differences between both plant type experiments in this table