

Interactive comment on “Tree species identity and functional traits but not species richness affect interrill erosion processes in young subtropical forests” by S. Seitz et al.

Anonymous Referee #2

Received and published: 23 September 2015

Reviewer comments on: Tree species identity and functional traits but not species richness affect interrill erosion processes in young tropical forests

The manuscript shows very important results on the effect of tree species richness and functional traits on soil erosion processes. This work is based on an impressive dataset collected with micro plots under natural rainfall conditions. The results are very valuable not only for understanding the influence of tree vegetation on soil erosion, but also for developing management strategies for reforestation and erosion control. Despite of presenting here a very complete and relevant dataset, the article need some major revisions, especially concerning the results and discussion of the data. Thus, I do not

C479

get into details but give some comments for each of the chapters. Introduction The introduction of the article introduces quite well into the problem and gives an overview on both, soil erosion processes and the problem of tree biodiversity or the functional traits. Nevertheless, the introduction seems for me a little bit too long and I would suggest to shorten it, especially at the very beginning. This would help to highlight the scientific problem described. P 706, lines 25ff is IMHO redundant to the very well and clear formulated hypotheses. Methodology The chapter of methodology includes a good description of the study site and the experimental design. P 708, l 10: please explain (or rephrase) the apparent contradiction between random selection of the plot placement and its installation on selected, representative places. The description of the statistical analysis lacks in my opinion of a table with a list and brief description of the parameters. P 708, l 20: do not understand the meaning of “nested in plot” here Results The results section is in general too short, and should be re-organised. Especially a first chapter describing the plots data should be placed at the beginning (emphasizing on common and differentiating data). This chapter should be followed by the description of the interrill erosion data and only afterwards the effects. Also the tables included here in the appendix are in my opinion crucial for understanding the processes measured and should be included in the chapter. Discussion The authors show here, as within the introduction, a good knowledge of the recent research. But the chapter should be reorganised similar to the results chapter. In addition, here the authors do not explain clearly the different effects they observed, especially concerning the different functional traits of the tree species. Some more information and discussion about the effects of the trees traits would make it also possible to expand the results to other regions, where the other species are present. This point of a missing in discussion in depth is especially evident when discussing the interrill erosion, as the authors mainly discuss the accuracy of their methodology. Conclusions The conclusions can be shortened as they contain not only the overall results, but also some redundant information of the discussion. Therefore I recommend major revisions of the manuscript.

C480

