Solid Earth Discuss., 6, C1197–C1199, 2014
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# *Interactive comment on* "Scale effect on runoff and soil loss control using rice straw mulch under laboratory conditions" *by* S. H. R. Sadeghi et al.

**Anonymous Referee #2**

Received and published: 27 October 2014

Abstract Extracted results from the abstract are not clear for the reader. Results must to be synthetized and a conclusion of the scale effect must to be included.

Introduction Authors did not reflect the state of the art on scale effects in erosion. Since there are several publications on this field, the referee ask to improve this section. Authors add several references in the Bibliography section but they did not include in the text, and opposite, authors include references in the text and do not in the Bibliography section (e.g. Martins et al., 2014, line 9 page 2917). Authors introduce plot scale effects and sediment yield in relation to rock fragment content and disposition, which it is not the frame of the current research (page 2917, lines 17-24). Previously, authors stressed objectives in line10 to 13 and materials and methods in line 13-16 (page 2917). This is not the correct section. In general, Introduction section must be



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re-written and the state of the art on scale effects in erosion must to be improved based on existing bibliography.

Materials and Methods Must be written in a more clear way. If I understood correctly: 2 plot sizes (0.25m2 and 6m2) x 2 rain intensities (50 and 90 mm h-1) x 2 treatment (control and straw mulch) = 8 treatments and 3 replicates, makes a total of 24 rainfall simulations. Pleased, explain clearly in the text. On soil characterization, the referee ask to implement more soil information as parent material, soil organic matter, pH, complete textural class (% of sand, silt, clay), at least. Regarding rainfall simulations (RS) in Control, the referee understood that each RS on Control were done just previously to the RS on the treated plots (straw mulch), being the soil MATRIX the same (physically). In that sense, RUNOFF and SEDIMENT LOSS are influenced by previous SOIL MOISTURE CONTENT and thus, the previous RS test. It is not acceptable as an experimental design since results from the second RS (with straw mulch) are influenced by the first RS (control). Each RS by treatment must to share same soil characteristics and conditions to be a replicate. On the 2.4. Statistical analyses, referee ask for ANOVA and Tukey test to detect differences between treatments and plots sizes. A more detailed description of the test and interactions must to be written.

Results Authors repeated statements, e.g: In page 2921, Line 2 to 4 are objectives, and line 5 to 6 are material and methods. Authors should describe results as a history, including statistical signification of comparisons. They only mention where to find figures and tables and refers the reader there. Referee ask to merge results and discussion in one section. Referee observed that Table 1 and Figure 2 & 3, includes the same information, the same in Table 3 and Figures 4 & 5. Pleased do not repeat information, choose one (Table or Figure). Some ideas: add SD on data presented in tables, runoff coefficient cannot be negative (0-100%), see Table 2.

Discussion Must to be re-written and merged to the Results section to make sense.

English must to be revised



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6, C1197–C1199, 2014



Interactive comment on Solid Earth Discuss., 6, 2915, 2014.