

Interactive comment on “The impact of soil preparation on the soil erosion rates under laboratory conditions” by A. Khaledi Darvishan et al.

A. Khaledi Darvishan et al.

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All the corrections have been highlighted in blue color. Best Regards

Reviewer Comment 1) Try to improve the manuscript title by substituting a better term instead of "soil preparation". I've given some suggestions inside the text. In addition, based on the recommendation 4, it is advised to emphasis on the specific conditions in the title too. A few titles were suggested just for brain storming (you may find them on the annotated manuscript). Author's response: It has been corrected.

Reviewer Comment 2) The authors are not stable in using specific terms along their

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writing particularly for two treatments. While, they apply "before and after soil preparing" at the beginning of the paper, it is followed by using "disturbed and undisturbed" at the end part of the manuscript. It is highly recommended that they systematically be stable in using terminologies in the abstract, methods, results and discussion to avoid misunderstanding. Author's response: It has been corrected.

Reviewer Comment 3) On the reasons why there is not any interaction between rainfall intensity and soil disturbance treatments (lines 223-225), I think all intensities are high enough to seal the soil surface. If low intensities (for example 20 mm/h) had been employed, most probably you would have found an interaction then. Author's response: It has been discussed in the text.

Reviewer Comment 4) In the lines 232-233, please make more elaboration on your recommendation. The results of this research are valid only for a natural cover (range-land) and could not be extended to dry farming which usually is under tillage/seed bed preparing practices every year. In addition, the slope length is not long enough to produce rills. Therefore, it would be better if you narrowed the scope of the manuscript to specified conditions. Author's response: It has been discussed in the text.

Reviewer Comment 5) In Table (1), It seems the rainfall duration is the summation of "time to runoff"+ 15 min. However, in the methodology, the duration has been mentioned 15 min. Please correct it. In addition, what is the reason to use different rainfall duration? Explain the reasons based on some references. Note that both runoff and erosion are influenced by rainfall depth and duration. Two suggestions are given in this case: a) To achieve an accurate runoff coefficient, the duration of rainfall should be considered equal. Since the runoff rate is almost constant in the last two "3 min.", you could recalculate it based on the longest experiment ($15.74+15=30.74$ min). b) If it is not possible, add a column to show rainfall volume in each experiment. Author's response: It has been corrected.

Reviewer Comment 6) Figure (3) and Table (2) provide almost similar information. It is

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best if you discard one of them. Author's response: The exact results of calculations shown in Table (2) are necessary to control or use calculations and statistical analysis by other researchers, while the general view provided in Figure (3) is necessary to be discussed by other researchers.

Please also note the supplement to this comment:

<http://www.solid-earth-discuss.net/7/C2064/2016/sed-7-C2064-2016-supplement.pdf>

Interactive comment on Solid Earth Discuss., 7, 885, 2015.

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