

## ***Interactive comment on “Experimental analysis of drainage and water storage of litter layers” by A. Guevara-Escobar et al.***

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General comment: The article describes results of detailed laboratory experiments on litter layer storage and drainage towards the underlying soil. The paper is very strictly and pragmatically structured. The paper’s topic is very relevant for hydrological process understanding and, in my opinion, gives valuable results. I believe this paper is well suited for HESS. Two general comments I would like to make. First of all, the authors present their data but I less successful in setting the context of their research, in explaining why their experiments are worthwhile. Secondly, I found it not so easy to read the paper as I had the impression I got lost several times in the amount of different tests with different rain intensities with different litter material. The paper would benefit from a textual/structural revision. I therefore recommend moderate revision.

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Specific comments:

The abstract contain to much detailed information all the numbers especially) that would better be left out.

The introduction describes landslides and surface erosion, but the paper is about interception. I believe this introduction is not to-the-point for the rest of the paper. I propose to concentrate on interception and past research on that topic and leave out the landslide etcetera part. On P1769 reference is made to other litter interception research. Please elaborate on this. How were these tests done, how they determined storage, etc etc.

Section 2 Material and method. Please add at least one/two figure(s)-sketch-photo of the laboratory set-up.

2.2-2.3-2.4-2.5: A table, summarizing all combination would be helpful. Trying to memorize all different combinations when reading/studying the rest of the paper is difficult.

Please explain why Rutter model is useful and why not other interception models were used/tried.

Section 3. Results and discussion

Here, the experimental results are described in detail. I think the section is more on results than on discussion. I believe the authors should go a little bit further in their discussion of the results. The do not really point out the strong, important points/results they think they have made. That should be stressed more.

P1777: Fig 2-3: Results difficult to see from current figures (see also technical comments) P1778, L.11: Why is this so? Explain, give physical reasoning. P1778, L17: Why? Give reasoning. P1778, L22: "difficult to interpret". Elaborate on this. Subsection 3.4: Why only poplar leaves, what about woodchips and grass. Other model then linear regression? Subsection 3.4 needs more discussion. Subsection 3.5. In my opinion, the authors should explain the relevance of their results, their strong findings.

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Misses focus on interception/storage of litter layer. After P1781, L25 would be better placed in the introduction. Landslide work (P1782 L5 onwards) is coming in, but that has limited to do with the article. I would propose to skip this.

Technical comments: My print of the article showed per-mille (‰) symbols. Should that not be % signs? P1769: Too often the same reference makes the article difficult to read. Skip some. P1771, L17: textual: “was constant with intensity”. ?? P1776, L22: Textual: “this did not occurred”? Replace with? “this did not occur” P1779, L14: 420 than at 20 mm h<sup>-1</sup>. Really 420 mm h<sup>-1</sup>? P1780, L12: Spelling “wais” P1780, L22. Syntax?? Figure 2, A-B-C-D mixed up. Figure 3 is not readable. Enlarge and maybe leave out the error bars as these do not give much information.

I advice to not put so much information in the figure caption, but bring it into the graphs. First of all use a legend in the figure (or next to the figure) in stead of writing it in words in the caption. Secondly, replace A-B-C-D notations in graph with corresponding information in caption by writing this information directly in the graph. By example fig 2-3-etc, replace A in graph corner by  $i=9.8 \text{ mm h}^{-1}$ . This will make it much more readable in my opinion. Figure 4: right lower corner:  $i=30.2 \text{ mm h}^{-1}$  Figure 6: replace a-b-c for text in caption Figure 7 the same

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