

Interactive comment on “Assessing the cover crop effect on soil hydraulic properties by inverse modelling in a 10-year field trial” by Jose Luis Gabriel et al.

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We want to thank the reviewer all the suggestions made to improve the final version of the manuscript. The reviewer can find here the answer to the questions suggested but also in the attached documents. 1) “Inverse modelling allows the identification of parameters of the soil-crop system that are consistent with monitored soil water and crop parameters in the field and will ultimately result in lower model prediction uncertainties. “ The authors have certainly considered lower model prediction uncertainties.

Response: We did.

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2) I suggest explicitly state the input and output variables in the Water and Agrochemicals in soil, crop and Vadose Environment (WAVE_ model (Vanclouster et al., 1996). A table of all variables is highly recommended to let readers who are not experts of WAVE model to understand the model.

Response: The WAVE model includes many soil parameters, and even more plant parameters. We agree that most of the readers could not be familiar with the WAVE model, as also happens to other reader with other models or methodologies. However, the interest of this experimental work is not to present the WAVE model (already described in 1996 by Vanclouster et al.), and because of that we have preferred to refer to the original publication. So, we do not think that resuming all the parameters in a table will improve readability of the manuscript and we prefer to only highlight the most important ones in the main text (as most of the authors do in modelling experiments with WAVE, with other hydrologic models as HYDRUS or SWAT or with other kind of complex models).

3) The last conclusion does not present scientific findings.

Response: The last sentence “The use of an inverse calibration of a numerical model based on daily soil water content measurements proved to be a very useful tool for determining the soil hydraulic properties and for quantifying the water balance components in a non-destructive way” has been removed.

Please also note the supplement to this comment:

<https://www.hydrol-earth-syst-sci-discuss.net/hess-2017-643/hess-2017-643-AC2-supplement.zip>

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., <https://doi.org/10.5194/hess-2017-643>, 2017.

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