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# Interactive comment on "Are biodiversity indices of spontaneous grass covers in olive orchards good indicators of soil degradation?" *by* E. V. Taguas et al.

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Dear Reviewer 2, Thank you for the time you devoted to reading this manuscript and for your helpful comments.

We have to defend that the choice of indicators is suitable to the characteristics of the study environment. In fact, the information provided by them is consistent with the field analysis, where more diverse vegetal communities are present in Con. The selected indices are complementary. We agree that the richness (R) is an absolute index of biodiversity. However, Shanon's and Pielou's indices are defined in terms of frequency

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considering the weight of different species. In addition, the use of both of them allowed contrasting their results in the study catchments.

On the other hand, Sorensen's index allowed highlighting the biodiversity differences of the catchments. The seasonal study is useful because the species or its development degree can change along the year. Nevertheless, this analysis can be simplified if the reviewer considers convenient (only the results in spring would be showed).

Finally, if the work was supported on the life-forms, there would not be conclusive results because we have not been working on natural systems where different biotypes can be described. An extreme simplification of the life-forms represented uniquely by Therophytes and Hemicryptophytes (Table 5), is found in olive orchards. This is a permanent feature in agricultural systems where grass spontaneous cover is periodically removed to reduce water competition. In order to evaluate the differences, the index R (richness) offers detailed information of the present species in each catchment (Table 6).

We think that our hypothesis was eventually not appropriate because of the environmental conditions (particularly precipitation and soil properties) resulted more determinant than the management. This can be justified due to: 1) better development conditions derived from lesser water limitations (In Con, there is a higher precipitation, and deeper and clayey soil for storing water) and 2) more effective seed dispersal, associated to greater flow/runoff in the catchments in Con.

Interactive comment on SOIL Discuss., 2, 233, 2015.

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