

## ***Interactive comment on “Soil physical quality changes under different management systems after 10 years in Argentinian Humid Pampa” by J. L. Costa et al.***

**Anonymous Referee #1**

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**GENERAL COMMENTS** This paper evaluated the evolution of the soil physical parameters in three management systems: moldboard plow, chisel plow and no-till. The manuscript represent an interesting paper and I consider the paper merits publication in Solid Earth (after moderate/major revisions). The scientific approach and applied methods are valid. The paper is well structured and the length of the paper is adequate. However, the results and conclusions weren't presented in a clear, concise and well-structured way. So, I considered that the results discussed should be re-worked and sometimes the text should re-write, because it is really difficult to understand some discussions.

**SPECIFIC COMMENTS** The title clearly reflects the contents of the paper. Abstract  
C849

I suggest to simplify and clarify the abstract. It is confused. Introduction. 1. In my opinion, the objectives of the manuscript should be clarify. 2. The hypotheses should be indicated in the introduction section. Material and methods 1. I suggest changing the order of the first and second paragraphs. First, you should introduce the area and then you present the climate characteristics. 2. Page 2619 (lines 7-18). I suggest to move it to a new sub-section (experiment design). 3. In my opinion it is not clear the study period. You indicate in the tittle and in the text that the experimental period is 10 years (1997-2007); however, you analyzed two samples in two years. Could you explain it in the text? why? 4. Page 2621 (line 1). Check the text because there are some mistakes in the formula explanation. 5. Section 2.3 Crop yield. I suggest a better explanation of the method or include some references. Results and Discussion 1. The explanations are not clear and sometimes they are confuse. Please try to simplify the result discussions. 2. The details about Figure 2 should be improved (also Figure 2 should be clarified) 3. Results about SOC should be improved. Some Figure or Table should be added. Figures 1. Figure 1. Figure 1 should be improved. Some coordinates can be added in the Figure, north, legend. I also suggest to include some Pictures of the study area. 2. Figure 2. It should be improved. I suggest to split up the Figure in different figures with more information about bulk density. I suggest to make 4 figures (3-8 cm, 13-18 cm, 2004 and 2007). Similar to Figure 3. References. It should be interesting to include new references related to worldwide studies. Many of the references in the manuscript are related to Argentina systems, and maybe it would be better to include wide literature.

**TECHNICAL CORRECTIONS** References: 1. Check references. Check agreement between names in the text and in the reference list. 2. Please homogenize references and make sure that the referencing style follows that currently in use in the Solid Earth.

The study should be checked and it would be necessary to change different points in relation with the forms (See PDF).

So, I consider that the paper merits its publication, and I think that it has to be accepted

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for publication with moderate/major revisions.

Please also note the supplement to this comment:

<http://www.solid-earth-discuss.net/6/C849/2014/sed-6-C849-2014-supplement.pdf>

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Interactive comment on Solid Earth Discuss., 6, 2615, 2014.