

Dear editors of Soil,

Thank you for your message. We are so grateful for your helpful comments. We did our best to take into account every comment and suggestion and we hope that the new version of our manuscript has been improved in term of quality.

Considering the point the editors have asked, here your find our improvements:

1.) *Terminology is not clear and partly incorrect. Authors did not follow suggestions of reviewer 2 to provide definitions for terms such as "deep horizons" or "natural soil". "Topsoil uptake" is incorrect and has be changed to e.g. "topsoil removal". "Waste material" is incorrect too since soil material is no waste, even though it has to be removed for construction purposes.*

We added the definition of natural soils, as asked for: Line 61

Natural soil: soils that generally show genetic relationships between the horizons they are composed of, and in which transitions among soils' types are visible. Human dos not influence their formation process (Lehmann and Stahr, 2007).

The definition of C horizon has been added indirectly in the Material and Methods section, to match the nature of our own materials, as follow: Line 118

Excavated Deep Horizon: the result of the weathering of carbonated rock fragments.

“Top soil uptake” will be replaced with “topsoil removal”

We deleted the “waste” word in the whole 2.1 section.

2.) *You ignored six comments without any explanation (reviewer 1) and did not follow many other suggestions of the reviewers that would be helpful or required to improve the paper. For example additional tables were proposed by reviewer 1 (result equations) and reviewer 2 (site characteristics). Please reconsider all comments from the two reviewers and provide explanations if you do not follow their suggestions.*

In fact we took into account all reviewers suggestions.

We added the 2 tables asked by the reviewer, the 2<sup>nd</sup> one “result equations” has been added in “supplementary information”. The other comments have been taken into account, but not always applied: some were orthographic corrections of sentences the English native reader’s had already checked. There were also some words removal’s suggestions, which would have altered the very meaning of the sentence. But in general, the comments have been applied. For example, we deleted the word “Technosols” from different titles, as the first reviewer proposed, without giving a long detail list.

3.) *Incorrect and missing citations. Reviewer 2 suggested to refer to Kautz et al. 2013, Soil*

*Biology and Biochemistry, Vol 57, p 1003-1002 on earthworm effects. References are incomplete (e.g. Zalasiewicz et al.) and partly incorrect (term "Anthropocene" is derived from Eugene F. Stoermer and promoted by Paul Crutzen and not from Zalasiewicz et al.). Please check all citations in order to refer to the original data source.*

In fact, according to the recommendation of another reviewer, the paragraph containing this citation has been deleted. But we added the Kautz et al's reference, and we are thankful for this very interesting reading. It's always a good thing to learn about a paper that we don't know, and to give it more visibility for other researchers.

*4.) Page 4: Parent material is for sure not untouched by plants and animals (see reviewer 2). Plant roots can reach several meters in depth and soil fauna such as microorganisms are everywhere in the soil and sediment. Thus, change to "parent materials have hardly been subjected to the activities of organisms."*

This paragraph will be deleted completely. (Line 66) We have changed the previous block to: "The pedogenesis of constructed Technosol is particularly interesting. It begins with the mixing of parent materials in a proportion chosen by the experimenter, whereas the initial state of natural soils is never under the control of researchers."

Please contact me if you have any question.

Sincerely,

Best regards,

Maha DEEB