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Interactive comment on "Changes in soil carbon and nutrients following six years of litter removal and addition in a tropical semi-evergreen rain forest" *by* Edmund Vincent John Tanner et al.

Anonymous Referee #2

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This manuscript nicely describes the effect of litter manipulation on soil carbon and nutrient stocks in tropical rainforest. I appreciated the efforts the authors made to improve the manuscript based on previous reviewer suggestions. In particular, revisions made to the Introduction and Discussion sections have made this manuscript much easier to read.

I agree with many of the already published referee comments (bg-2016-229-RC1) that there are still a few clarifications that could be made to improve the manuscript prior to final publication. While most of my comments were technical, a few were more substantive.

General comment: Referee comment 1 points out that a few more details about how

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soil mineral mass was measured would be valuable, and I concur. Likewise, I would appreciate seeing a comparison of results using more traditional ways of measuring soil C (e.g., fraction of dry mass) and the approach utilized here. Given its novelty, mineral mass is of limited utility when comparing to other studies. If there were no significant differences in nutrient content among manipulations or depths using other approaches, this would speak to the importance of using this method to calculate ecologically meaningful change in soil C.

Technical comments: Please clarify abbreviations: The LA and LR abbreviations were not spelled out when the appeared for the first time on lines 55 and 56, and appear to have been conflated with L- and L+ in the Sayer et al. quote on lines 109 and 110.

The sentence that begins on line 75 is awkward - perhaps a better way of saying this is that "After 2.5 years of litter manipulation in Costa Rica, surface soils (0-10 cm) had lower nitrification in both litter removal and addition treatments..."

On line 89, the carbon that stays in soil and litter crop does not mitigate increased forest productivity - it mitigates increased atmospheric C, or something like that. This line was confusing and, as stated, does not appear to be correct.

I appreciated the improvements to the figures in response to previous comments. The figures could be strengthened by including notations to depict which litter effects were significantly different from controls. While this information is largely contained in the text, including this in the figures would help if the images were ever reproduced for other uses.

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