

Interactive comment on “Response of soil respiration and soil microbial biomass carbon and nitrogen to grazing management in the Loess Plateau, China” by Zhen Wang et al.

Anonymous Referee #2

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The authors investigated how grazing intensities and grazing patterns affect soil respiration as well as the potential underlying mechanisms. Their results are interesting and can be potentially published somewhere. But for the current MS, it was quite confusion and unclear (please see some of my specific comments below). Moreover, there were many grammar errors across the whole MS, I did not list all of these errors, it was quite time-consuming. I deeply understand the writing difficulties for the non-native English researchers, but this MS was quite immature for submission. I suggest that authors should well prepare their manuscript for the next submission.

Abstract The abstract should be rewritten, particularly for the description of your re-

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sults. You should focus on what you are really want to let others know from this study. The conclusion from the results was quite vague, nothing valuable from your conclusion sentence. You have a lot of information about your experiments design, is it too specific in the abstract section? Can you describe your experiment design in a much terser way? P1 L16-18. Really? I think there are already many studies investigating these variables, even several meta-analysis. You should reorganize the sentence. P1 L 25. I think the word “affect” in your results section is very vague. Readers will not know whether grazing increase or decrease Rs in this way. P2 L1-2. Quite confusion. Are these results from SEM analysis? Or you just add this sentence. P2 L4. Nothing new from the last sentence of your abstract. I think as a researcher in grazing ecology, one can easily hypothesized that grazing can affect C sequestration through both biotic and abiotic factors. Do you think your conclusion is very new and deserve to be published? One suggestion was that you should be very specific, then you will have your own conclusion. Introduction At the beginning, I should highlight that there are many grammar errors in your whole manuscript; I will not list your errors one by one. I think this is your work, which should be finished before your submission. You have too many abbreviations. It is quite difficult for me to remember so many abbreviations, I need to refresh these abbreviations frequently. Moreover, many abbreviations only appeared once or twice. P2 L15. A repetition of the first sentences in your abstract. P2 L22. You have a good literature review. Then what are your research questions? The second paragraph of your introduction was very long, however, you changed your logical and focus for several times. It is very hard for readers to understand what you want to say. You should sharp your research questions and hypotheses. In your current version, you always present your hypotheses, questions and results in quite ambiguous ways. It is quite difficult for readers to find something interesting from your MS, if you determine present your results in this way. Materials and methods P5 L10. Why do you only measure soil respiration in 2010 and 2011, considering you have conducted this experiment for nine years? P5 L10. Do you continue with the measurements from 2011-2018, since these experiments were conducted eight years ago? The descrip-

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tion about your Rs measurements is unclear, even though you had some citations here. Why do you only measure Rs during the middle of May, September, and December? Do you mean ST and SM measured for all treatments or only for the control? It was quite confusion. Do you mean ST and SM only measure for the dates when RS was measured? How can you come true the random but adjacent the pots for Rs measurements? As soon as possible? How fast is it? Within several minutes, several hours or even several days? Many variables were measured repeatedly across the seasons or years, so a repeated ANOVA analysis should be used for your statistical analysis. You should have more information about the description of SEM analysis. Results Your whole results sections are quite confusion. I think there are many related studies published, you can read how they write their results section. After the subtitle "SMBC and SMBN", you have a lot of description on ST, SM, AGB, BGB, or even the results from your data analysis. Do you need more subtitles? Discussion Sorry, I do not read your discussion. There are many gramma errors, confusion sentences or even very strange descriptions impeding my review. I will stop here. I think the authors should well prepare their manuscript for the next submission. Figures and tables Table 1. Repeated ANOVA analysis should be conducted. Table 2. What do "WG" and "CG" stand for? Figure 1. Is this figure related to your study? You have legend for forest, grassland. . . If you want show a figure like this, I would suggest you show your experiments design since it was now very confusion. Figure 3. Why did you only measure soil respiration from three months? Figures should be presented in a easier way depending on what you want to compare. Figure 5. Why do your determine to use line chart here? There are many overlaps. You symbols are not very similar. It was very hard for me to understand your figure. Abbreviations were rarely used in the titles or in the first word of a sentence. How can you construct your SEM in this way? Was it based on your model comparison or randomly?

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