

Interactive comment on “Land-use changes influence soil bacterial communities in a meadow grassland in Northeast China” by Chengyou Cao et al.

Anonymous Referee #1

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General comments: The MS presented by Cao et al, investigated the effects of land-use changes on soil properties and bacterial communities in Horqin Grasslands of Northeast China. The shifts in the diversities and compositions of soil bacterial communities and the relative abundance of dominant taxa were detected. Experimental design and methodology were well executed and the results were professionally analyzed. The experimental set-up was appropriate: Four land-use systems (natural meadow grassland, paddy field, upland field, and poplar plantation) were selected as experimental sites. Composite samples were taken from three random field replicates established at each site. Also the methods used in soil properties analysis seem adequate. Especially, high-throughput Illumina MiSeq sequencing technique was applied

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in this paper to investigate the changes in the microbial diversities and community compositions, which can provide useful information for microbial community composition, therefore, the results is credible. The results will be useful, in that it gives some proofs for land use management in semi-arid eroded environment. The paper is within the scope of SE, and the research was performed in an interesting area of China. Generally, the MS is easy to read. The content and form of this article is well focused.

Specific comments - Vegetation flora classifications should cite references -Provide authorship for plant species -Change "physicochemical" to "physical and chemical" soil properties here and elsewhere - Please check acronyms. For nonstandard acronyms and initialisms that appear more than once in the main text, that is, they are usually defined first as per common usage in the field of study, provide the full term at first mention, with the acronym or initialism indicated in parentheses. Thereafter, use the acronym or initialism alone in subsequent mentions. -P8 L11 Verify if large numbers should be properly inserted with commas for clarity. -P11 L4 "Land-use conversion can be regarded as the determinant that can alter soil properties because the four sites have the same soil type." : not clear. -P14 L4 Instead of saying "These changes may influence environmental functions", it is better to say "These changes in soil properties and microbial community structures may produce potential effects on the ecological functions of the meadow grassland ecosystem." -P14 L19-22, redundant conclusion, delete 3). - Fig. 3 change "class" to "subdivision"

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