

Interactive comment on “Effect of soil coarseness on soil base cations and available micronutrients in a semi-arid sandy grassland” by L. Lü et al.

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Received and published: 9 March 2016

Review SE-2016-18

The manuscript “Effect of soil coarseness on soil base cations and available micronutrients in a semi-arid sandy grassland” provides an interesting perspective on changes in soil chemistry involved in soil coarseness in China, and under impact of a vegetation transplantation experiment. The manuscript is concise and well-written, and is of interest to Solid Earth. I have some suggestions to improve the impact of the paper.

Main suggestions

1. At present the study is presented a bit technical, I suggest to include a description of the pedogenesis of the area the study was carried out, it makes sense from a

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soil origin perspective, because not every soil is prone to effects of soil coarseness. Include proper references to the description of the pedogenesis when these are available (some suggestions below).

2. In the description of the experimental design I have two questions: Page 5 line 13 mentions species composition. What was the composition? And based on the transplantation procedures would the authors expect a difference in start conditions of micronutrients, was it checked? And if there were differences how do the authors expect this to play out over the experimental period of two years?

3. Related to point 2: The vegetation could be a bit more embedded in the discussion with references to other studies in that respect. Where there differences observed in plant composition after two years and how could these have affected the micronutrients?

Specific suggestions

Page 3 line 3 “and are” instead of “as well as”

Page 3 line 14 cause a decrease

Page 3 line 15 decrease of

Page 10 line 17-20 I would suggest to reference Van der Ploeg et al 2012. They show that plant species composition and local variations in chemistry are also related to differences in microtopography. The microtopography may be induced by species differentiation itself. This may be an important factor in the grassland systems here as well, and may also determine differences between the current and other studies in terms of micronutrient species distribution. Another interesting reference in that respect is Burke et al. 1999.

Fig 2 panel c and Fig 3 panel 3: Were no significant differences found, or are the indications for significant difference missing? If first, please mention in caption, if second, please include in Figure.

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Interactive comment on Solid Earth Discuss., doi:10.5194/se-2016-18, 2016.

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