

## ***Interactive comment on “Response of soil respiration to nitrogen addition along a degradation gradient in a temperate steppe of northern China” by Jinbin Chen et al.***

### **Anonymous Referee #3**

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The manuscript by Chen et al. reported the response of soil respiration ( $R_s$ ) to increasing N addition rates in grasslands along four degradation levels. Although it is interesting to examine the nonlinear relationship between  $R_s$  and N addition and the variations among degradation gradients, there are some methodological flaws in this study which may limit our understanding of this topic. First, the experimental layout is not randomized complete block design because each treatment was arranged in the same site in each block, rather than randomly set up (Fig. 2). In this case, the statistics such as ANOVA may not be suitable in data analyses; second, for the  $R_s$  measurements, I found there were only seven points during the two years (Fig. 3). It is usually twice or three times a month for  $R_s$  measurement in previous reports. So this frequency

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is relatively low and may not represent the whole growing seasons, particularly no measures in May and June in both years.

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