

Interactive comment on “Does *Juncus effusus* enhance methane emissions from grazed pastures on peat?” by A. Henneberg et al.

Anonymous Referee #2

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The authors present a study which addressed the question if aerenchymatous *Juncus effusus* might provide hot spots of methane emissions from peatlands overgrown with grasses.

The study is well designed and well presented. The most negative point about the whole study is that based on the design it is less than obvious that *J. effusus* plants have the proposed function.

It is well known from rice fields that the other aerenchymatous grasses can do so. It is also well established that *Juncus effusus* has an aerenchyma. Thus, it is not evident what is really new about the finding that other factors override this potential effect of *J. effusus*. More detailed work on single plants showing that they really transport methane from soil through the aerenchyma would have made the study more solid.

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Thus, it would much more help if the authors would highlight in the discussion and abstract why it is a mandatory step to integrate this effect in the methane emission models.

p 8472, ln 1, '...were taken...' p 8476, ln 4 better '...waterfilled pore volume at...' p 8478, ln 24-26 awkward wording. Please, rephrase.

Figure 3, Why are no error bars being presented? Figure 5, Remove the graphical legend from each panel, but add the name/number of the replicate in each panel

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